

Integer irreducible polynomials of height 3 with a real root  $0 < \xi < 1$ .

1	$x^3 - 3x^2 - 3x + 2$	0.4760	49	$2x^3 + x^2 + x - 3$	0.8777	97	$3x^3 + 2x - 1$	0.4023
2	$x^3 - 3x^2 - 2x + 1$	0.3434	50	$2x^3 + x^2 + 2x - 3$	0.7635	98	$3x^3 + 3x - 2$	0.5233
3	$x^3 - 3x^2 - 2x + 3$	0.7984	51	$2x^3 + x^2 + 3x - 3$	0.6614	99	$3x^3 + 3x - 1$	0.3050
4	$x^3 - 3x^2 - x + 1$	0.4608	52	$2x^3 + x^2 + 3x - 1$	0.2893	100	$3x^3 + x^2 - 2x - 1$	0.8712
5	$x^3 - 3x^2 - x + 2$	0.7459	53	$2x^3 + 2x^2 - 3$	0.8907	101	$3x^3 + x^2 - x - 2$	0.8878
6	$x^3 - 3x^2 + 1$	0.6527	54	$2x^3 + 2x^2 + x - 3$	0.7869	102	$3x^3 + x^2 - x - 1$	0.7357
7	$x^3 - 2x^2 - 3x + 1$	0.2865	55	$2x^3 + 2x^2 + 2x - 3$	0.6914	103	$3x^3 + x^2 - 3$	0.9003
8	$x^3 - 2x^2 - 3x + 2$	0.5293	56	$2x^3 + 2x^2 + 3x - 3$	0.6063	104	$3x^3 + x^2 - 2$	0.7754
9	$x^3 - 2x^2 - 3x + 3$	0.7609	57	$2x^3 + 2x^2 + 3x - 2$	0.4603	105	$3x^3 + x^2 - 1$	0.5982
10	$x^3 - 2x^2 + 3x - 1$	0.4302	58	$2x^3 + 2x^2 + 3x - 1$	0.2711	106	$3x^3 + x^2 + x - 3$	0.8029
11	$x^3 - x^2 - 3x + 1$	0.3111	59	$2x^3 + 3x^2 - 3x - 1$	0.8733	107	$3x^3 + x^2 + x - 1$	0.4694
12	$x^3 - x^2 + 3x - 2$	0.7152	60	$2x^3 + 3x^2 - 2x - 2$	0.8892	108	$3x^3 + x^2 + 2x - 3$	0.7103
13	$x^3 - x^2 + 3x - 1$	0.3611	61	$2x^3 + 3x^2 - 2x - 1$	0.7446	109	$3x^3 + x^2 + 2x - 2$	0.5666
14	$x^3 - 3x + 1$	0.3473	62	$2x^3 + 3x^2 - x - 3$	0.9013	110	$3x^3 + x^2 + 2x - 1$	0.3627
15	$x^3 + 3x - 2$	0.5961	63	$2x^3 + 3x^2 - 2$	0.6777	111	$3x^3 + x^2 + 3x - 3$	0.6253
16	$x^3 + 3x - 1$	0.3222	64	$2x^3 + 3x^2 + x - 3$	0.7174	112	$3x^3 + x^2 + 3x - 2$	0.4796
17	$x^3 + x^2 + 2x - 3$	0.8437	65	$2x^3 + 3x^2 + x - 2$	0.5832	113	$3x^3 + x^2 + 3x - 1$	0.2837
18	$x^3 + x^2 + 3x - 3$	0.7113	66	$2x^3 + 3x^2 + x - 1$	0.3982	114	$3x^3 + 2x^2 - 3x - 1$	0.8862
19	$x^3 + x^2 + 3x - 2$	0.5260	67	$2x^3 + 3x^2 + 2x - 3$	0.6360	115	$3x^3 + 2x^2 - x - 3$	0.9093
20	$x^3 + x^2 + 3x - 1$	0.2956	68	$2x^3 + 3x^2 + 2x - 1$	0.3172	116	$3x^3 + 2x^2 - x - 2$	0.7980
21	$x^3 + 2x^2 + x - 3$	0.8637	69	$2x^3 + 3x^2 + 3x - 2$	0.4294	117	$3x^3 + 2x^2 - x - 1$	0.6465
22	$x^3 + 2x^2 + 2x - 3$	0.7430	70	$2x^3 + 3x^2 + 3x - 1$	0.2564	118	$3x^3 + 2x^2 - 3$	0.8201
23	$x^3 + 2x^2 + 3x - 3$	0.6398	71	$3x^3 - 3x^2 - 3x + 1$	0.2776	119	$3x^3 + 2x^2 - 1$	0.5282
24	$x^3 + 2x^2 + 3x - 2$	0.4780	72	$3x^3 - 3x^2 - 3x + 2$	0.5338	120	$3x^3 + 2x^2 + x - 3$	0.7342
25	$x^3 + 2x^2 + 3x - 1$	0.2757	73	$3x^3 - 3x^2 - 2x + 1$	0.3704	121	$3x^3 + 2x^2 + x - 2$	0.6048
26	$x^3 + 3x^2 - 2x - 1$	0.8342	74	$3x^3 - 3x^2 + 2x - 1$	0.7181	122	$3x^3 + 2x^2 + x - 1$	0.4212
27	$x^3 + 3x^2 - x - 2$	0.8608	75	$3x^3 - 3x^2 + 3x - 2$	0.7959	123	$3x^3 + 2x^2 + 2x - 3$	0.6537
28	$x^3 + 3x^2 - x - 1$	0.6751	76	$3x^3 - 3x^2 + 3x - 1$	0.4425	124	$3x^3 + 2x^2 + 3x - 3$	0.5802
29	$x^3 + 3x^2 - 1$	0.5321	77	$3x^3 - 2x^2 - 3x + 1$	0.3003	125	$3x^3 + 2x^2 + 3x - 2$	0.4457
30	$x^3 + 3x^2 + x - 3$	0.7693	78	$3x^3 - 2x^2 + x - 1$	0.7839	126	$3x^3 + 2x^2 + 3x - 1$	0.2669
31	$x^3 + 3x^2 + 2x - 3$	0.6717	79	$3x^3 - 2x^2 + 2x - 1$	0.5523	127	$3x^3 + 3x^2 - 3x - 2$	0.9085
32	$x^3 + 3x^2 + 2x - 2$	0.5214	80	$3x^3 - 2x^2 + 3x - 3$	0.8586	128	$3x^3 + 3x^2 - 3x - 1$	0.7925
33	$x^3 + 3x^2 + 2x - 1$	0.3247	81	$3x^3 - 2x^2 + 3x - 1$	0.3743	129	$3x^3 + 3x^2 - 2x - 3$	0.9168
34	$x^3 + 3x^2 + 3x - 2$	0.4422	82	$3x^3 - x^2 - 1$	0.8241	130	$3x^3 + 3x^2 - 2x - 1$	0.6847
35	$x^3 + 3x^2 + 3x - 1$	0.2599	83	$3x^3 - x^2 + x - 2$	0.8552	131	$3x^3 + 3x^2 - x - 3$	0.8347
36	$2x^3 - 3x^2 - 3x + 1$	0.2725	84	$3x^3 - x^2 + x - 1$	0.6350	132	$3x^3 + 3x^2 - x - 2$	0.7256
37	$2x^3 - 3x^2 - 2x + 1$	0.3554	85	$3x^3 - x^2 + 2x - 3$	0.8758	133	$3x^3 + 3x^2 - 2$	0.6380
38	$2x^3 - 3x^2 - 2x + 2$	0.6446	86	$3x^3 - x^2 + 2x - 2$	0.7120	134	$3x^3 + 3x^2 - 1$	0.4753
39	$2x^3 - 2x^2 - 3x + 2$	0.5732	87	$3x^3 - x^2 + 2x - 1$	0.4599	135	$3x^3 + 3x^2 + x - 3$	0.6789
40	$2x^3 - 2x^2 + 3x - 2$	0.7592	88	$3x^3 - x^2 + 3x - 3$	0.7571	136	$3x^3 + 3x^2 + x - 2$	0.5561
41	$2x^3 - 2x^2 + 3x - 1$	0.3966	89	$3x^3 - x^2 + 3x - 2$	0.5823	137	$3x^3 + 3x^2 + x - 1$	0.3848
42	$2x^3 - x^2 - 3x + 1$	0.3210	90	$3x^3 - 3x + 1$	0.3949, 0.7422	138	$3x^3 + 3x^2 + 2x - 3$	0.6081
43	$2x^3 - x^2 + 3x - 3$	0.8400	91	$3x^3 - x - 1$	0.8514	139	$3x^3 + 3x^2 + 2x - 2$	0.4824
44	$2x^3 - x^2 + 3x - 2$	0.6316	92	$3x^3 - 1$	0.6934	140	$3x^3 + 3x^2 + 2x - 1$	0.3105
45	$2x^3 - x^2 + 3x - 1$	0.3456	93	$3x^3 + x - 3$	0.8894	141	$3x^3 + 3x^2 + 3x - 2$	0.4184
46	$2x^3 + 2x - 3$	0.8612	94	$3x^3 + x - 2$	0.7474	142	$3x^3 + 3x^2 + 3x - 1$	0.2531
47	$2x^3 + 3x - 2$	0.5536	95	$3x^3 + x - 1$	0.5366			
48	$2x^3 + 3x - 1$	0.3129	96	$3x^3 + 2x - 3$	0.7822			

Number:  $\xi = .4760\dots$  Equation:  $x^3 - 3x^2 - 3x + 2 = 0$ . "All" optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.09131	0.1141
2	$4x^2 - 4x + 1$	$[1, -4, 4, 1]$	$1/2x^2 - 3/2x + 1/2$	-1	0.03679	0.07588
3	$8x^2 + 13x - 8$	$[2, 19, -8, 1]$	$x$	-2	0.1850	0.3251
4	$25x^2 - 14x + 1$	$[1, 10, 1, 2]$	$-1/2x^2 + 5/2x - 1/2$	-1	0.3946	0.5189
5	$-17x^2 + 27x - 9$	$[0, 1, -1, 1]$	$-1/3x^2 + x + 1/3$	0	0.3377	0.5091
6	$-12x^2 - 30x + 17$	$[1, -2, 0, 1]$	$1/2x$	1	0.09924	0.1470
7	$54x^2 - 11x - 7$	$[1, -1, -1, 1]$	$1 - x$	1	0.1685	0.1783
8	$66x^2 + 19x - 24$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.2286	0.2778
9	$120x^2 + 8x - 31$	$[0, -1, 2, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.07614	0.08156
10	$248x^2 + 321x - 209$	$[2, -10, 3, 1]$	$x - 1$	-2	0.2855	0.5769
11	$368x^2 + 329x - 240$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.3409	0.7583
12	$201x^2 - 436x + 162$	$[1, 9, -3, 2]$	$-x^2 + 4x - 1$	1	0.3242	0.4378
13	$449x^2 - 115x - 47$	$[1, 0, 1, 1]$	$1/2x^2 - 1/2x - 1/2$	1	0.2148	0.2312
14	$616x^2 + 650x - 449$	$[1, -1, 1, 1]$	$1/2x$	1	0.1071	0.2545
15	$483x^2 - 1316x + 517$	$[1, 2, -1, 1]$	$-x^2 + 4x - 1$	1	0.2975	0.3835
16	$-1882x^2 - 749x + 783$	$[1, -3, -1, 1]$	$-x^2 + 1$	1	0.4706	0.6266
17	$133x^2 + 1966x - 966$	$[1, -1, 0, 1]$	$1/3x^2 - 5/3x + 4/3$	1	0.3161	0.3938
18	$2365x^2 - 567x - 266$	$[1, -1, 0, 1]$	$x$	1	0.2177	0.2330
19	$-4380x^2 - 2148x + 2015$	$[1, -1, -1, 1]$	$-1/4x^2 + 1/4x + 1/4$	1	0.2333	0.3387
20	$-4597x^2 + 3100x - 434$	$[1, -2, 0, 1]$	$x^2 - 4x + 2$	1	0.08286	0.1213
21	$-9411x^2 + 11448x - 3317$	$[0, -1, 3, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.05177	0.09110
22	$16785x^2 + 31550x - 18822$	$[2, -8, 5, 1]$	$-x$	2	0.1872	0.3068
23	$-57746x^2 + 43015x - 7391$	$[1, 10, -1, 2]$	$1/2x^2 - 5/2x + 1/2$	1	0.3616	0.5682
24	$65120x^2 - 17x - 14748$	$[1, 1, -1, 1]$	$-1/3x^2 + 2/3x + 2/3$	1	0.4178	0.4392
25	$24159x^2 + 74548x - 40961$	$[1, 1, 1, 1]$	$-1/6x^2 + 5/6x - 1/6$	1	0.1053	0.1481
26	$-122866x^2 + 43032x + 7357$	$[1, -1, 0, 1]$	$1 - x$	1	0.1498	0.1687
27	$-147025x^2 - 31516x + 48318$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.1949	0.2249
28	$-269891x^2 + 11516x + 55675$	$[0, -1, 2, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.06616	0.06910
29	$-528266x^2 - 765514x + 484107$	$[2, -12, 3, 1]$	$x - 1$	-2	0.2789	0.5233
30	$-798157x^2 - 753998x + 539782$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.2754	0.6472
31	$-1023889x^2 + 418821x + 32643$	$[1, 9, -1, 2]$	$-1/2x^2 + 5/2x - 3/2$	1	0.1918	0.2241
32	$-1326423x^2 - 1519512x + 1023889$	$[1, 1, 0, 1]$	$1/2x$	1	0.1006	0.2229
33	$-1216978x^2 + 3541489x - 1410067$	$[1, 3, -2, 1]$	$-x^2 + 4x - 1$	1	0.3701	0.4725
34	$4172358x^2 + 1435868x - 1628957$	$[1, -3, -1, 1]$	$-x^2 + 1$	1	0.3973	0.5049
35	$-109445x^2 - 5061001x + 2433956$	$[1, -1, 0, 1]$	$1/3x^2 - 5/3x + 4/3$	1	0.3598	0.4432
36	$-5389336x^2 + 2105621x + 218890$	$[1, -1, 0, 1]$	$x$	1	0.1942	0.2242
37	$9671139x^2 + 4391248x - 4281803$	$[1, -1, -1, 1]$	$-1/4x^2 + 1/4x + 1/4$	1	0.1954	0.2739
38	$10669227x^2 - 9272243x + 1996176$	$[1, -2, 0, 1]$	$x^2 - 4x + 2$	1	0.07668	0.1373
39	$22336542x^2 - 32207977x + 10270331$	$[0, -1, 3, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.07039	0.1114
40	$-34801649x^2 - 77279957x + 44673084$	$[2, -8, 5, 1]$	$-x$	2	0.1929	0.2965

41	$134418148x^2 - 127036028x + 30013201$	$[1, 10, -1, 2]$	$1/2x^2 - 5/2x + 1/2$	1	0.3366	0.6540
42	$-146883255x^2 + 17548094x + 24930214$	$[1, 1, -1, 1]$	$-1/3x^2 + 2/3x + 2/3$	1	0.3651	0.3809
43	$-181684904x^2 - 59731863x + 69603298$	$[1, 0, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	1	0.5075	0.6369
44	$-47266756x^2 - 186767891x + 99616499$	$[1, 0, 1, 1]$	$-1/4x^2 + 5/4x - 3/4$	1	0.1135	0.1531
45	$-281301403x^2 + 144584122x - 5082987$	$[1, 1, -1, 1]$	$x - 1$	1	0.1349	0.1706
46	$-328568159x^2 - 42183769x + 94533512$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.1672	0.1838
47	$-609869562x^2 + 102400353x + 89450525$	$[0, 1, 2, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.05803	0.0609
48	$-1727208333x^2 - 1740158161x + 1219739124$	$[2, 11, 3, 1]$	$x$	2	0.2249	0.5570
49	$-2350027723x^2 + 1360988961x - 115350181$	$[1, 10, -1, 2]$	$-1/2x^2 + 5/2x - 3/2$	1	0.1736	0.2323
50	$2844547104x^2 + 3582716675x - 2350027723$	$[1, -2, 0, 1]$	$-1/2x$	1	0.09604	0.1979
51	$-9271810883x^2 - 2600896914x + 3339066485$	$[1, 2, -1, 1]$	$1 - x$	1	0.3370	0.4073
52	$-12116357987x^2 - 6183613589x + 5689094208$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.5229	0.7743
53	$-12360008177x^2 + 6907345158x - 487300380$	$[1, 3, 2, 1]$	$x^2 - 4x + 2$	1	0.1755	0.2306
54	$-21388168870x^2 - 8784510503x + 9028160693$	$[1, 1, 0, 1]$	$1/4x^2 - 1/4x - 1/4$	1	0.1641	0.2211
55	$24963666544x^2 - 26905649063x + 7150995348$	$[1, -3, 0, 1]$	$-x^2 + 4x - 2$	1	0.08376	0.1618
56	$-76524514787x^2 - 19446186351x + 26597181699$	$[1, 3, 0, 1]$	$-1/2x^2 + 1/2x + 1/2$	1	0.4233	0.5018
57	$-47985350569x^2 - 82041994980x + 49927333088$	$[1, 2, 1, 1]$	$1/2x - 1$	1	0.3707	0.6349
58	$53502830762x^2 - 89501457692x + 30481146737$	$[1, -1, 1, 1]$	$1/4x^2 - 5/4x + 3/4$	1	0.09337	0.1376
59	$-71007034594x^2 - 190989639023x + 107005661524$	$[1, 1, 1, 1]$	$-x$	1	0.2024	0.2939
60	$-333003708211x^2 + 84974196765x + 35008407664$	$[1, -4, 1, 1]$	$x - 1$	1	0.3224	0.3470
61	$-404010742805x^2 - 106015442258x + 142014069188$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.4311	0.5141
62	$-88511238426x^2 - 471480735738x + 244492469785$	$[1, 2, 0, 1]$	$-1/4x^2 + 5/4x - 3/4$	-1	0.1243	0.1620
63	$-648503212590x^2 + 450439490245x - 67469992933$	$[1, 1, -1, 1]$	$x - 1$	-1	0.1232	0.1839
64	$-737014451016x^2 - 21041245493x + 177022476852$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.1445	0.1530
65	$-1385517663606x^2 + 429398244752x + 109552483919$	$[0, 1, 2, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.05145	0.0567
66	$-3727154746066x^2 - 4047000506899x + 2771035327212$	$[2, 11, 3, 1]$	$x$	-2	0.2090	0.4842
67	$-5432518170505x^2 + 4159970854463x - 749244005585$	$[1, 10, -1, 2]$	$-1/2x^2 + 5/2x - 3/2$	-1	0.1594	0.2559
68	$6068791828526x^2 + 8523399258550x - 5432518170505$	$[1, -2, 0, 1]$	$-1/2x$	-1	0.09337	0.1786
69	$-20660982915602x^2 - 4250458056523x + 6705065486547$	$[1, 2, -1, 1]$	$1 - x$	-1	0.2875	0.3299
70	$-26729774744128x^2 - 12773857315073x + 12137583657052$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.4371	0.6271
71	$-28548108516131x^2 + 21229252517067x - 3636667544006$	$[1, 3, 2, 1]$	$x^2 - 4x + 2$	-1	0.1608	0.2523
72	$-47390757659730x^2 - 17024315371596x + 18842649143599$	$[1, 1, 0, 1]$	$1/4x^2 - 1/4x - 1/4$	-1	0.1384	0.1782
73	$58914550804265x^2 - 76461614866274x + 23047586289070$	$[1, -3, 0, 1]$	$-x^2 + 4x - 2$	-1	0.1162	0.1958
74	$-170720381495321x^2 - 29843693597721x + 52891279886791$	$[1, 3, 0, 1]$	$-1/2x^2 + 1/2x + 1/2$	-1	0.3619	0.4077
75	$-100282037546521x^2 - 199791238701865x + 117829101608530$	$[1, 2, 1, 1]$	$1/2x - 1$	-1	0.3777	0.6042
76	$229634932299586x^2 - 46617921268553x - 29843693597721$	$[1, -1, 0, 1]$	$1/4x^2 - 5/4x - 1/4$	-1	0.3934	0.4162
77	$-129352894753065x^2 + 246409159970418x - 87985408010809$	$[0, -1, -1, 1]$	$-2/7x^2 + x - 1/7$	0	0.1216	0.1706
78	$-141649524288777x^2 - 476044092270004x + 258705789506130$	$[1, 2, 1, 1]$	$x$	-1	0.2160	0.2989
79	$759343140847558x^2 - 309801308909803x - 24593259071424$	$[1, -3, -1, 1]$	$1 - x$	-1	0.2880	0.3362
80	$900992665136335x^2 + 166242783360201x - 283299048577554$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 2/3$	0	0.3683	0.4173

Number:  $\xi = .3434\dots$  Equation:  $x^3 - 3x^2 - 2x + 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$1 - x$	-1	0.3097	0.6968
2	$-3x^2 + x$	$[1, -3, 0, 1]$	$-1/3x^2 + 5/3x - 2/3$	-1	0.09314	0.1035
3	$-6x^2 + 5x - 1$	$[1, -1, 3, 1]$	$x^2 - 3x$	-1	0.3399	0.5853
4	$-5x^2 - 7x + 3$	$[1, 5, -2, 1]$	$-1/5x^2 + x + 2/5$	-1	0.3330	0.5640
5	$-8x^2 - 6x + 3$	$[1, 0, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	-1	0.2274	0.3873
6	$-9x^2 + 6x - 1$	$[1, -1, 1, 1]$	$-x^2 + 4x - 1$	-1	0.07358	0.1072
7	$-21x^2 - 19x + 9$	$[1, 2, 0, 1]$	$x$	-1	0.1376	0.2754
8	$28x^2 - 30x + 7$	$[1, -4, 0, 1]$	$x^2 - 4x + 1$	-1	0.07175	0.1382
9	$54x^2 + 63x - 28$	$[1, -3, 0, 1]$	$x$	-1	0.1087	0.2099
10	$91x^2 - 139x + 37$	$[1, 4, 0, 1]$	$-x^2 + 4x - 1$	-1	0.1352	0.2027
11	$-134x^2 - 219x + 91$	$[1, -3, 0, 1]$	$-x$	-1	0.1152	0.1783
12	$-487x^2 + 42x + 43$	$[1, -3, 2, 1]$	$x - 1$	-1	0.3742	0.3799
13	$310x^2 - 619x + 176$	$[1, 2, -1, 1]$	$-2/3x^2 + 7/3x - 1/3$	-1	0.2353	0.3134
14	$-311x^2 - 796x + 310$	$[1, 1, 1, 1]$	$-x$	-1	0.1336	0.1743
15	$-1418x^2 + 484x + 1$	$[1, -2, 1, 1]$	$x - 1$	-1	0.2784	0.3109
16	$-1729x^2 - 312x + 311$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.2165	0.2305
17	$1106x^2 - 2695x + 795$	$[1, 2, -1, 1]$	$-x^2 + 4x - 2$	1	0.3915	0.4915
18	$-623x^2 - 3007x + 1106$	$[0, 1, 1, 1]$	$-x$	0	0.1674	0.1972
19	$-4253x^2 + 2867x - 483$	$[1, 1, -1, 1]$	$x - 1$	-1	0.2199	0.3226
20	$-4876x^2 - 140x + 623$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.1511	0.1537
21	$-9129x^2 + 2727x + 140$	$[0, 1, 2, 1]$	$x^2 - 3x$	0	0.4832	0.5265
22	$-9892x^2 - 8989x + 4253$	$[1, 4, 2, 1]$	$-1/5x^2 + x + 2/5$	-1	0.4084	0.8211
23	$-763x^2 - 11716x + 4113$	$[0, -1, 1, 1]$	$2/3x^2 - 7/3x + 1/3$	0	0.2230	0.2514
24	$-14005x^2 + 2587x + 763$	$[1, 1, 0, 1]$	$x$	-1	0.1094	0.1135
25	$-27247x^2 + 16890x - 2587$	$[0, -1, 2, 1]$	$x^2 - 3x$	0	0.3778	0.5264
26	$-25423x^2 - 29834x + 13242$	$[1, 2, 1, 1]$	$-1/5x^2 + x + 2/5$	-1	0.3261	0.6271
27	$-39428x^2 - 27247x + 14005$	$[1, 0, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	-1	0.2978	0.4776
28	$-41252x^2 + 19477x - 1824$	$[1, -1, 1, 1]$	$-x^2 + 4x - 1$	-1	0.08333	0.1021
29	$-84328x^2 + 85678x - 19477$	$[0, -1, 3, 1]$	$x^2 - 3x$	0	0.3279	0.6625
30	$-63027x^2 - 103805x + 43076$	$[1, 2, -1, 1]$	$-1/5x^2 + x + 2/5$	-1	0.3465	0.5338
31	$-104279x^2 - 84328x + 41252$	$[1, 0, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	-1	0.1828	0.3310
32	$-125580x^2 + 105155x - 21301$	$[1, -1, 1, 1]$	$-x^2 + 4x - 1$	-1	0.06778	0.1173
33	$-271585x^2 - 272461x + 125580$	$[1, 2, 0, 1]$	$x$	-1	0.1096	0.2417
34	$398041x^2 - 504948x + 126456$	$[1, -4, 0, 1]$	$x^2 - 4x + 1$	-1	0.09618	0.1620
35	$689175x^2 + 922538x - 398041$	$[1, -3, 0, 1]$	$x$	-1	0.1102	0.1923
36	$1320579x^2 - 2292253x + 631404$	$[1, 4, 0, 1]$	$-x^2 + 4x - 1$	-1	0.1740	0.2449
37	$-1669484x^2 - 3272562x + 1320579$	$[1, -3, 0, 1]$	$-x$	-1	0.1218	0.1733
38	$-6611530x^2 + 1254173x + 348905$	$[1, -3, 2, 1]$	$x - 1$	-1	0.3263	0.3390
39	$-8281014x^2 - 2018389x + 1669484$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.2677	0.2945
40	$4593141x^2 - 10091550x + 2923657$	$[1, 2, -1, 1]$	$-x^2 + 4x - 2$	1	0.2959	0.3821

41	$-3687873x^2 - 12109939x + 4593141$	$[0, 1, 1, 1]$	$-x$	0	0.1463	0.1810
42	$-19485685x^2 + 9327334x - 905268$	$[1, 1, -1, 1]$	$x - 1$	-1	0.2488	0.3063
43	$23173558x^2 + 2782605x - 3687873$	$[0, -1, -1, 1]$	$-1/3x^2 + 2/3x + 1/3$	0	0.1840	0.1913
44	$-42659243x^2 + 6544729x + 2782605$	$[0, 1, 2, 1]$	$-x^2 + 3x$	0	0.5688	0.5846
45	$16703080x^2 - 43638762x + 13015207$	$[1, 2, -1, 1]$	$-3/5x^2 + 2x + 1/5$	1	0.4857	0.6001
46	$6470478x^2 + 46421367x - 16703080$	$[1, 0, -1, 1]$	$x$	1	0.1887	0.2168
47	$-59362323x^2 + 50183491x - 10232602$	$[1, -1, 0, 1]$	$1 - x$	1	0.2027	0.3535
48	$-65832801x^2 + 3762124x + 6470478$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.1303	0.1320
49	$-125195124x^2 + 53945615x - 3762124$	$[0, -1, 2, 1]$	$x^2 - 3x$	0	0.4300	0.5102
50	$-127903478x^2 - 128957248x + 59362323$	$[1, -4, 2, 1]$	$-1/5x^2 + x + 2/5$	-1	0.3284	0.7210
51	$-2708354x^2 - 182902863x + 63124447$	$[0, -1, 1, 1]$	$2/3x^2 - 7/3x + 1/3$	0	0.2572	0.2879
52	$-191027925x^2 + 57707739x + 2708354$	$[1, 1, 0, 1]$	$x$	-1	0.09633	0.1051
53	$379347496x^2 - 298318341x + 57707739$	$[0, 1, -2, 1]$	$-x^2 + 3x$	0	0.3465	0.5688
54	$-324348111x^2 - 437055235x + 188319571$	$[1, 2, 1, 1]$	$1/5x^2 - x - 2/5$	1	0.3311	0.5749
55	$-515376036x^2 - 379347496x + 191027925$	$[1, 0, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	1	0.2408	0.4043
56	$570375421x^2 - 356026080x + 54999385$	$[1, 1, -1, 1]$	$x^2 - 4x + 1$	1	0.07537	0.1054
57	$-1355100183x^2 - 1195750227x + 570375421$	$[1, 2, 0, 1]$	$-x$	1	0.1461	0.2857
58	$1766125648x^2 - 1803451816x + 411025465$	$[1, 4, 0, 1]$	$x^2 - 4x + 1$	1	0.06614	0.1330
59	$-3494925128x^2 - 3943276761x + 1766125648$	$[1, 3, 0, 1]$	$-x$	1	0.1086	0.2156
60	$5709402409x^2 - 8409557491x + 2214477281$	$[1, 4, 0, 1]$	$x^2 - 4x + 1$	1	0.1262	0.1932
61	$-8718649736x^2 - 13633282099x + 5709402409$	$[1, 3, 0, 1]$	$-x$	1	0.1139	0.1805
62	$31070581571x^2 - 1905385036x - 3009247327$	$[1, 3, -2, 1]$	$1 - x$	1	0.3885	0.3936
63	$19342684508x^2 - 37581506725x + 10624034772$	$[1, 2, 1, 1]$	$2/3x^2 - 7/3x + 1/3$	1	0.2213	0.2976
64	$-20446546799x^2 - 49309403788x + 19342684508$	$[1, -1, 1, 1]$	$-x$	1	0.1308	0.1734
65	$90202497386x^2 - 27758994698x - 1103862291$	$[1, 2, -1, 1]$	$1 - x$	1	0.2874	0.3147
66	$110649044185x^2 + 21550409090x - 20446546799$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.2261	0.2424
67	$68652088296x^2 - 163959308999x + 48205541497$	$[1, 2, 1, 1]$	$x^2 - 4x + 2$	1	0.3696	0.4664
68	$-41996955889x^2 - 185509718089x + 68652088296$	$[0, -1, 1, 1]$	$-x$	0	0.1625	0.1931
69	$269503629867x^2 - 170167894607x + 26655132407$	$[1, 1, 1, 1]$	$1 - x$	1	0.2252	0.3171
70	$311500585756x^2 + 15341823482x - 41996955889$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.1573	0.1606
71	$581004215623x^2 - 154826071125x - 15341823482$	$[0, -1, 2, 1]$	$x^2 - 3x$	0	0.4992	0.5350
72	$-638342994994x^2 - 565662392141x + 269503629867$	$[1, 4, -2, 1]$	$1/5x^2 - x - 2/5$	-1	0.4338	0.8517
73	$-57338779371x^2 - 720488463266x + 254161806385$	$[0, 1, 1, 1]$	$2/3x^2 - 7/3x + 1/3$	0	0.2151	0.2433
74	$835166022008x^2 - 859972710909x + 196823027014$	$[1, 2, 1, 1]$	$1 - x$	1	0.2012	0.4016
75	$892504801379x^2 - 139484247643x - 57338779371$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x - 1/3$	0	0.1133	0.1166
76	$1727670823387x^2 - 999456958552x + 139484247643$	$[0, -1, 2, 1]$	$x^2 - 3x$	0	0.3875	0.5197
77	$-1645525355115x^2 - 1867155071030x + 835166022008$	$[1, 3, -1, 1]$	$1/5x^2 - x - 2/5$	-1	0.3257	0.6439
78	$2538030156494x^2 + 1727670823387x - 892504801379$	$[1, 0, -1, 1]$	$-1/3x^2 + 2/3x + 1/3$	-1	0.3148	0.4995
79	$2620175624766x^2 - 1138941206195x + 82145468272$	$[1, 1, 1, 1]$	$-x^2 + 4x - 1$	-1	0.08575	0.1020
80	$5322496717804x^2 - 5144494441972x + 1138941206195$	$[0, -1, 3, 1]$	$x^2 - 3x$	0	0.3228	0.6391

Number:  $\xi = .7984\dots$  Equation:  $x^3 - 3x^2 - 2x + 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1610	0.3220
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$1/3 x^2 - x + 1/3$	-1	0.1626	0.2440
3	$x^2 + 3x - 3$	$[1, 3, -3, 1]$	$x$	-1	0.2921	0.6167
4	$5x^2 - 4x$	$[1, 3, 1, 1]$	$x - 1$	-1	0.1636	0.2684
5	$5x^2 - 9x + 4$	$[1, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	-1	0.1339	0.2017
6	$6x^2 + 14x - 15$	$[1, 4, -3, 1]$	$x$	-1	0.2970	0.6031
7	$x^2 + 23x - 19$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1763	0.2970
8	$26x^2 - 17x - 3$	$[1, 3, 1, 1]$	$x$	-1	0.1799	0.2592
9	$25x^2 - 40x + 16$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1075	0.1668
10	$35x^2 + 66x - 75$	$[1, 3, 1, 1]$	$x$	-1	0.3018	0.6013
11	$10x^2 + 106x - 91$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1523	0.2659
12	$136x^2 - 71x - 30$	$[1, 3, 1, 1]$	$x$	-1	0.2001	0.2644
13	$-126x^2 + 177x - 61$	$[0, 1, -1, 1]$	$-1/3 x^2 + x - 1/3$	0	0.08562	0.1392
14	$201x^2 + 313x - 378$	$[1, 3, 1, 1]$	$-x$	1	0.3117	0.6136
15	$75x^2 + 490x - 439$	$[0, 1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1323	0.2416
16	$715x^2 - 289x - 225$	$[1, -3, 1, 1]$	$x$	-1	0.2249	0.2839
17	$640x^2 - 779x + 214$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.06743	0.1180
18	$1141x^2 + 1494x - 1920$	$[1, 3, 1, 1]$	$x$	-1	0.3270	0.6405
19	$501x^2 + 2273x - 2134$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1158	0.2234
20	$3275x^2 - 3405x + 631$	$[1, 4, 0, 1]$	$x - 1$	-1	0.05238	0.1026
21	$6420x^2 + 7181x - 9825$	$[1, 4, 1, 1]$	$x$	-1	0.3482	0.6828
22	$3145x^2 + 10586x - 10456$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.1021	0.2107
23	$16876x^2 - 14752x + 1021$	$[1, 5, 0, 1]$	$x - 1$	-1	0.05231	0.09248
24	$35876x^2 + 34773x - 50628$	$[1, 4, 1, 1]$	$x$	-1	0.3759	0.7419
25	$19000x^2 + 49525x - 51649$	$[0, -1, 1, 1]$	$1/3 x^2 - x + 1/3$	0	0.09880	0.2030
26	$87525x^2 - 63174x - 5351$	$[1, 5, 0, 1]$	$x - 1$	-1	0.05721	0.08723
27	$111876x^2 + 232873x - 257224$	$[1, 4, 0, 1]$	$x - 1$	-1	0.09964	0.2001
28	$456625x^2 - 266345x - 78404$	$[1, 5, 0, 1]$	$x - 1$	-1	0.06331	0.08672
29	$646905x^2 + 1101191x - 1291471$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1021	0.2020
30	$2395001x^2 - 1098852x - 649244$	$[1, 5, 0, 1]$	$x - 1$	-1	0.07082	0.09093
31	$3691150x^2 + 5239610x - 6535759$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1063	0.2086
32	$12621910x^2 - 4393069x - 4537691$	$[1, 5, 0, 1]$	$x - 1$	-1	0.07997	0.09999
33	$20850751x^2 + 25099198x - 33328039$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1124	0.2202
34	$66800700x^2 - 16725735x - 29224214$	$[1, 5, 0, 1]$	$x - 1$	-1	0.09107	0.1142
35	$116875665x^2 + 121102921x - 171177886$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1206	0.2372
36	$354854251x^2 - 58529477x - 179449109$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1045	0.1341
37	$651179025x^2 + 588788870x - 885113644$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1311	0.2600
38	$1891146920x^2 - 171544464x - 1068423431$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1207	0.1602
39	$3610749376x^2 + 2885414873x - 4605017329$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1443	0.2896
40	$10106913625x^2 - 268933450x - 6227230799$	$[1, 5, 0, 1]$	$x - 1$	-1	0.1401	0.1934

41	$19944893800x^2 + 14255529901x - 24093510076$	[1, 5, 0, 1]	$x - 1$	-1	0.1606	0.326
42	$18404146177x^2 - 53671690908x + 31118928455$	[2, 9, -4, 1]	$-x^2 + 4x - 2$	-2	0.4431	0.644
43	$54145317501x^2 + 1540747623x - 35741171324$	[1, 4, 1, 2]	$x^2 - 1$	-1	0.1635	0.234
44	$-71008716055x^2 + 120058164094x - 50590195662$	[1, -2, -1, 1]	$-x^2 + 4x - 3$	-1	0.3569	0.545
45	$109831382625x^2 + 71008716055x - 126694781179$	[1, 3, 1, 1]	$-1/3x^2 + 2/3$	-1	0.1805	0.372
46	$-87872114609x^2 + 241657075811x - 136921562648$	[1, 2, 0, 1]	$x^2 - 4x + 2$	-1	0.3652	0.530
47	$-290671481305x^2 - 21959268016x + 202799366696$	[1, -2, 0, 1]	$x^2 - 1$	-1	0.1916	0.286
48	$-356584327898x^2 + 532363599661x - 197738539779$	[1, 2, 1, 1]	$x^2 - 4x + 3$	-1	0.2853	0.452
49	$-603302230626x^2 - 356584327898x + 669215077219$	[1, 3, -1, 1]	$1/3x^2 - 2/3$	-1	0.2048	0.429
50	$422497174491x^2 - 1086686467338x + 598276446254$	[1, -2, 0, 1]	$x^2 - 4x + 2$	-1	0.3003	0.436
51	$-180805056135x^2 - 1443270795236x + 1267491523473$	[0, 1, 1, 1]	$-x$	0	0.4228	0.755
52	$-1563188789150x^2 - 180805056135x + 1140691614659$	[1, 2, 0, 1]	$1/3x^2 - 2/3$	1	0.2253	0.348
53	$1804880907506x^2 - 2349152206439x + 725076355068$	[1, 1, -1, 1]	$-x^2 + 4x - 3$	1	0.2259	0.380
54	$-3307182634435x^2 - 1804880907506x + 3548874752791$	[1, 2, 0, 1]	$-1/3x^2 + 2/3$	1	0.2341	0.498
55	$2046573025862x^2 - 4879109469013x + 2590844324795$	[1, 2, 0, 1]	$x^2 - 4x + 2$	1	0.2461	0.358
56	$-1260609608573x^2 - 6683990376519x + 6139719077586$	[0, 1, 1, 1]	$-x$	0	0.3687	0.693
57	$8419246176376x^2 + 1260609608573x - 6372673150514$	[1, -2, 0, 1]	$-1/3x^2 + 2/3$	-1	0.2657	0.423
58	$9205209593665x^2 - 10302490236959x + 2357890251867$	[1, 1, 1, 1]	$x^2 - 4x + 3$	-1	0.1766	0.326
59	$-18099101961325x^2 - 9205209593665x + 18885065378614$	[1, -2, 0, 1]	$-1/3x^2 + 2/3$	-1	0.2696	0.581
60	$-9991173010954x^2 + 21865590082491x - 11088453654248$	[1, -2, 0, 1]	$-x^2 + 4x - 2$	-1	0.2010	0.294
61	$8107928950371x^2 + 31070799676156x - 29973519032862$	[0, -1, 1, 1]	$-x$	0	0.3240	0.647
62	$45403413516315x^2 + 8107928950371x - 35412240505361$	[1, -2, 0, 1]	$1/3x^2 - 2/3$	-1	0.3142	0.515
63	$-47286657576898x^2 + 44828460808276x - 5649732181749$	[1, 1, -1, 1]	$-x^2 + 4x - 3$	-1	0.1513	0.289
64	$-49169901637481x^2 + 97764850566923x - 46711704868859$	[0, 1, 2, 1]	$1/3x^2 - x + 1/3$	0	0.1633	0.242
65	$49744854345520x^2 + 145051508143821x - 147509704912443$	[1, 3, 2, 1]	$-x$	1	0.2969	0.617
66	$574952708039x^2 + 242816358710744x - 194221409781302$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.2032	0.333
67	$-244541216834861x^2 + 193071504365224x + 1724858124117$	[1, 3, -1, 1]	$-x$	-1	0.1645	0.267
68	$-243966264126822x^2 + 435887863075968x - 192496551657185$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.1320	0.199
69	$296010929304498x^2 + 680429079910829x - 731898792380466$	[1, 3, -1, 1]	$-x$	1	0.2972	0.602
70	$52044665177676x^2 + 1116316942986797x - 924395344037651$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.1746	0.294
71	$-1272450938519825x^2 + 820306013682299x + 156133995533028$	[1, 3, -1, 1]	$-x$	-1	0.1811	0.259
72	$-1220406273342149x^2 + 1936622956669096x - 768261348504623$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.1060	0.164
73	$1724595863357351x^2 + 3209073895188921x - 3661218820026447$	[1, 3, -1, 1]	$-x$	1	0.3023	0.601
74	$504189590015202x^2 + 5145696851858017x - 4429480168531070$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.1508	0.264
75	$-6658265621903623x^2 + 3421100988500666x + 1512568770045606$	[1, 3, -1, 1]	$-x$	-1	0.2016	0.265
76	$-6154076031888421x^2 + 8566797840358683x - 2916911398485464$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.08430	0.137
77	$9895430255306580x^2 + 15225063462262306x - 18462228095665263$	[1, 3, -1, 1]	$-x$	1	0.3126	0.615
78	$3741354223418159x^2 + 23791861302620989x - 21379139494150727$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.1311	0.240
79	$-35015923972875466x^2 + 13896431047314409x + 11224062670254477$	[1, 3, -1, 1]	$-x$	-1	0.2267	0.285
80	$-31274569749457307x^2 + 37688292349935398x - 10155076823896250$	[0, 1, 1, 1]	$1/3x^2 - x + 1/3$	0	0.06634	0.116

Number:  $\xi = .4608\dots$  Equation:  $x^3 - 3x^2 - x + 1 = 0$ . “All” optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$x^2 - 3x + 1$	0	0.1445	0.1806
2	$-3x^2 - 3x + 2$	$[2, -3, -3, 1]$	$1 - x$	-2	0.1753	0.4284
3	$4x^2 - 4x + 1$	$[1, 5, 1, 2]$	$1/2x^2 - 2x + 1/2$	-1	0.09829	0.2027
4	$8x^2 + 5x - 4$	$[1, -2, 0, 1]$	$x$	-1	0.1812	0.2972
5	$12x^2 + 14x - 9$	$[0, -1, 2, 1]$	$x^2 - 3x + 1$	0	0.09437	0.2027
6	$38x^2 - 11x - 3$	$[2, 5, 3, 1]$	$x - 1$	-2	0.3749	0.4086
7	$15x^2 + 43x - 23$	$[1, 5, -1, 2]$	$-1/2x^2 + 2x - 1/2$	-1	0.1514	0.2132
8	$73x^2 - 51x + 8$	$[1, 2, -1, 1]$	$x - 1$	-1	0.2353	0.3530
9	$88x^2 - 8x - 15$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.2922	0.3031
10	$-95x^2 - 132x + 81$	$[1, -4, -1, 1]$	$x^2 - 4x + 1$	1	0.4148	0.7859
11	$-7x^2 - 140x + 66$	$[0, 1, 1, 1]$	$1/2x^2 - 3/2x$	0	0.2730	0.3344
12	$161x^2 - 59x - 7$	$[1, 1, 0, 1]$	$-x$	-1	0.1664	0.1890
13	$-263x^2 - 213x + 154$	$[1, 1, -1, 1]$	$1 - x$	-1	0.2394	0.4785
14	$315x^2 - 258x + 52$	$[1, 2, 0, 1]$	$1/2x^2 - 2x + 1/2$	-1	0.1083	0.1839
15	$372x^2 + 625x - 367$	$[1, -2, -1, 1]$	$x - 1$	-1	0.2299	0.3907
16	$687x^2 + 367x - 315$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.2374	0.3551
17	$682x^2 - 987x + 310$	$[1, 3, 0, 1]$	$-x^2 + 4x - 2$	1	0.1809	0.2851
18	$1059x^2 + 992x - 682$	$[1, 1, 0, 1]$	$x$	1	0.09596	0.2200
19	$2733x^2 - 2594x + 615$	$[1, 3, 0, 1]$	$-x^2 + 4x - 1$	1	0.4032	0.7869
20	$-1436x^2 - 2971x + 1674$	$[1, -2, 0, 1]$	$1/2 - 1/2x$	1	0.1285	0.1993
21	$-5843x^2 + 3209x - 238$	$[1, -2, 1, 1]$	$x - 1$	1	0.2679	0.3492
22	$-7279x^2 + 238x + 1436$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.3553	0.3695
23	$8477x^2 + 9290x - 6081$	$[1, -4, 0, 1]$	$x^2 - 4x + 1$	-1	0.3652	0.8257
24	$1198x^2 + 9528x - 4645$	$[0, 1, 1, 1]$	$1/2x^2 - 3/2x$	0	0.2247	0.2817
25	$-11924x^2 + 12975x - 3447$	$[1, 2, 1, 1]$	$1 - x$	1	0.2247	0.4303
26	$-13122x^2 + 3447x + 1198$	$[0, -1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.1964	0.2116
27	$22797x^2 + 15371x - 11924$	$[1, 2, -1, 1]$	$1 - x$	1	0.3196	0.5524
28	$-25046x^2 + 16422x - 2249$	$[1, 1, 0, 1]$	$1/2x^2 - 2x + 1/2$	1	0.1217	0.1750
29	$-33670x^2 - 43717x + 27295$	$[1, -2, -1, 1]$	$x - 1$	1	0.1999	0.3965
30	$-58716x^2 - 27295x + 25046$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.3082	0.4309
31	$-52341x^2 + 64637x - 18671$	$[1, 3, 0, 1]$	$-x^2 + 4x - 2$	-1	0.1379	0.2398
32	$-92386x^2 - 71012x + 52341$	$[1, 1, 0, 1]$	$x$	-1	0.1298	0.2481
33	$-132431x^2 - 206661x + 123353$	$[0, -1, 2, 1]$	$x^2 - 3x + 1$	0	0.1105	0.1952
34	$-471523x^2 + 197583x + 9078$	$[2, 5, 1, 1]$	$x - 1$	-2	0.3101	0.3646
35	$603954x^2 + 9078x - 132431$	$[0, -1, -1, 1]$	$-1/2x^2 + x + 1/2$	0	0.4347	0.4557
36	$-141509x^2 - 650950x + 330014$	$[1, 5, -1, 2]$	$x^2 - 4x + 2$	-1	0.1864	0.2431
37	$-933968x^2 + 839455x - 188505$	$[1, -1, -1, 1]$	$x - 1$	-1	0.2069	0.3825
38	$-1075477x^2 + 188505x + 141509$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.2345	0.2457
39	$1028481x^2 + 1961928x - 1122473$	$[1, -3, 0, 1]$	$x^2 - 4x + 1$	1	0.4923	0.7887
40	$-1962449x^2 - 1122473x + 933968$	$[1, 0, -1, 1]$	$-1/2x^2 + x + 1/2$	1	0.4209	0.6540



41	$-2009445x^2 + 1027960x - 46996$	[1, 1, 1, 1]	$-1/2x^2 + 2x - 1/2$	1	0.1392	0.1757
42	$2990930x^2 + 3084401x - 2056441$	[1, -1, 0, 1]	$1 - x$	1	0.1769	0.4218
43	$4065886x^2 - 4206353x + 1074956$	[1, -3, 0, 1]	$-1/2x^2 + 2x - 1/2$	1	0.1038	0.2075
44	$-7991305x^2 - 5140842x + 4065886$	[1, -2, 0, 1]	$-x$	1	0.1726	0.2887
45	$-11916724x^2 - 14488037x + 9206728$	[0, 1, 2, 1]	$x^2 - 3x + 1$	0	0.09648	0.2007
46	$-38321485x^2 + 11778041x + 2709996$	[2, -5, 3, 1]	$x - 1$	-2	0.3640	0.4002
47	$-14626720x^2 - 44679534x + 23694765$	[1, 5, -1, 2]	$-1/2x^2 + 2x - 1/2$	-1	0.1561	0.2167
48	$-73932974x^2 + 53747579x - 9068045$	[1, 2, -1, 1]	$x - 1$	-1	0.2304	0.3557
49	$88559694x^2 - 9068045x - 14626720$	[0, -1, -1, 1]	$-1/2x^2 + x + 1/2$	0	0.2825	0.2932
50	$94118369x^2 + 136748598x - 83001019$	[1, -4, -1, 1]	$-x^2 + 4x - 1$	-1	0.4250	0.7830
51	$5558675x^2 + 145816643x - 68374299$	[0, -1, 1, 1]	$1/2x^2 - 3/2x$	0	0.2827	0.3453
52	$-162492668x^2 + 62815624x + 5558675$	[1, -1, 0, 1]	$-x$	-1	0.1618	0.1862
53	$262169712x^2 + 219749617x - 156933993$	[1, 1, -1, 1]	$1 - x$	-1	0.2271	0.4680
54	$-319426661x^2 + 271447891x - 57256949$	[1, 2, 0, 1]	$1/2x^2 - 2x + 1/2$	-1	0.1063	0.1866
55	$-367405431x^2 - 648131501x + 376683610$	[1, -2, -1, 1]	$x - 1$	-1	0.2361	0.3917
56	$-686832092x^2 - 376683610x + 319426661$	[0, 1, 1, 1]	$1/2x^2 - x - 1/2$	0	0.2266	0.3437
57	$-696110271x^2 + 1034093290x - 328704840$	[1, 3, 0, 1]	$-x^2 + 4x - 2$	1	0.1896	0.2946
58	$-1054237523x^2 - 1024815111x + 696110271$	[1, 1, 0, 1]	$x$	1	0.09079	0.2162
59	$-2775162905x^2 + 2725596260x - 666687859$	[1, 3, 0, 1]	$-x^2 + 4x - 1$	1	0.3969	0.8027
60	$1412364775x^2 + 3083723512x - 1720925382$	[1, -2, 0, 1]	$1/2 - 1/2x$	1	0.1321	0.2010
61	$5908453062x^2 - 3392284119x + 308560607$	[1, -2, 1, 1]	$x - 1$	1	0.2615	0.3484
62	$7320817837x^2 - 308560607x - 1412364775$	[0, 1, 1, 1]	$1/2x^2 - x - 1/2$	0	0.3431	0.3565
63	$-8424622005x^2 - 9609297788x + 6217013669$	[1, -4, 0, 1]	$x^2 - 4x + 1$	-1	0.3730	0.8158
64	$-1103804168x^2 - 9917858395x + 4804648894$	[0, 1, 1, 1]	$1/2x^2 - 3/2x$	0	0.2324	0.2899
65	$13229270899x^2 - 3700844726x - 1103804168$	[1, 1, 0, 1]	$-x$	1	0.1906	0.2068
66	$-22757697072x^2 - 15826311457x + 12125466731$	[1, 1, -1, 1]	$1 - x$	1	0.3041	0.5375
67	$25354737630x^2 - 17319547847x + 2597040558$	[1, 2, 0, 1]	$1/2x^2 - 2x + 1/2$	1	0.1191	0.1759
68	$33389927413x^2 + 45271326035x - 27951778188$	[1, -2, -1, 1]	$x - 1$	1	0.2047	0.3940
69	$58744665043x^2 + 27951778188x - 25354737630$	[0, 1, 1, 1]	$1/2x^2 - x - 1/2$	0	0.2945	0.4161
70	$53306515818x^2 - 67784954998x + 19916588405$	[1, 3, 0, 1]	$-x^2 + 4x - 2$	-1	0.1447	0.2468
71	$92134592456x^2 + 73223104223x - 53306515818$	[1, 1, 0, 1]	$x$	-1	0.1232	0.2423
72	$130962669094x^2 + 214231163444x - 126529620041$	[0, -1, 2, 1]	$x^2 - 3x + 1$	0	0.1133	0.1952
73	$476156501632x^2 - 209798114391x - 4433049053$	[2, 5, 1, 1]	$x - 1$	-2	0.3018	0.3605
74	$607119170726x^2 + 4433049053x - 130962669094$	[0, 1, 1, 1]	$1/2x^2 - x - 1/2$	0	0.4194	0.4389
75	$135395718147x^2 + 677088517917x - 340760783485$	[1, 5, -1, 2]	$-x^2 + 4x - 2$	1	0.1925	0.2490
76	$947879954211x^2 - 882453583255x + 205365065338$	[1, 1, -1, 1]	$x - 1$	1	0.2035	0.3893
77	$1083275672358x^2 - 205365065338x - 135395718147$	[0, 1, 1, 1]	$1/2x^2 - x - 1/2$	0	0.2271	0.2388
78	$1961186279378x^2 + 1153245019549x - 947879954211$	[1, 3, 1, 1]	$x - 1$	-1	0.4013	0.6339
79	$2031155626569x^2 - 1087818648593x + 69969347191$	[1, 1, 0, 1]	$-1/2x^2 + 2x - 1/2$	-1	0.1358	0.1749
80	$2974492604545x^2 + 3188943622353x - 2101124973760$	[1, 2, -1, 1]	$x - 1$	-1	0.1805	0.4159

Number:  $\xi = .7459\dots$  Equation:  $x^3 - 3x^2 - x + 2 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$1/2 x^2 - 3/2 x + 1/2$	0	0.1895	0.3791
2	$-x^2 - 2x + 2$	[2, -2, -1, 1]	$1 - x$	-2	0.1926	0.4334
3	$4x^2 - 3x$	[1, 3, 0, 1]	$1 - x$	-2	0.1958	0.3059
4	$-4x^2 + 7x - 3$	[1, -3, -3, 2]	$-1/2 x^2 + 3/2 x - 1/2$	-1	0.2043	0.3085
5	$-5x^2 - 7x + 8$	[1, -3, -2, 1]	$x$	-1	0.1990	0.4291
6	$-x^2 - 14x + 11$	[0, -1, 1, 1]	$1/2 x^2 - 3/2 x + 1/2$	0	0.2076	0.3369
7	$17x^2 - 10x - 2$	[1, -2, -1, 1]	$-x$	-1	0.2284	0.3105
8	$-16x^2 + 24x - 9$	[0, -1, -1, 1]	$-1/2 x^2 + 3/2 x - 1/2$	0	0.1550	0.2458
9	$-24x^2 - 25x + 32$	[1, 2, -1, 1]	$x$	-1	0.2056	0.4467
10	$-8x^2 - 49x + 41$	[0, -1, 1, 1]	$1/2 x^2 - 3/2 x + 1/2$	0	0.1642	0.2836
11	$73x^2 - 33x - 16$	[1, -2, -1, 1]	$-x$	-1	0.2719	0.3405
12	$65x^2 - 82x + 25$	[0, 1, 1, 1]	$1/2 x^2 - 3/2 x + 1/2$	0	0.1169	0.2012
13	$-113x^2 - 90x + 130$	[1, 2, -1, 1]	$-x$	1	0.2191	0.4896
14	$-48x^2 - 172x + 155$	[0, 1, 1, 1]	$1/2 x^2 - 3/2 x + 1/2$	0	0.1307	0.2469
15	$268x^2 - 279x + 59$	[1, 3, 0, 1]	$1 - x$	-1	0.08735	0.1719
16	$-525x^2 - 327x + 536$	[1, 3, -1, 1]	$-x$	-1	0.2405	0.5607
17	$-257x^2 - 606x + 595$	[0, 1, 1, 1]	$1/2 x^2 - 3/2 x + 1/2$	0	0.1047	0.2245
18	$-1120x^2 + 944x - 81$	[1, -4, 0, 1]	$x - 1$	1	0.09089	0.1559
19	$-1296x^2 - 2145x + 2321$	[1, 3, 0, 1]	$x - 1$	1	0.09919	0.2148
20	$-4737x^2 + 3170x + 271$	[1, 4, 0, 1]	$x - 1$	1	0.1050	0.1523
21	$-6304x^2 - 7636x + 9203$	[1, 4, 0, 1]	$x - 1$	1	0.1007	0.2172
22	$-20244x^2 + 10535x + 3405$	[1, 4, 0, 1]	$x - 1$	1	0.1238	0.1608
23	$-29953x^2 - 27374x + 37083$	[1, 4, 0, 1]	$x - 1$	1	0.1056	0.2319
24	$-87280x^2 + 34504x + 22823$	[1, 4, 0, 1]	$x - 1$	1	0.1486	0.1820
25	$-140056x^2 - 98961x + 151737$	[1, 4, 0, 1]	$x - 1$	1	0.1141	0.2599
26	$128375x^2 + 373021x - 349659$	[1, 3, -3, 1]	$-x^2 + 3x - 1$	1	0.4699	0.9384
27	$-379073x^2 + 110642x + 128375$	[1, 3, 1, 1]	$-1/2 x$	1	0.1810	0.2171
28	$-629771x^2 + 594305x - 92909$	[0, 1, 2, 1]	$x^2 - 3x + 1$	0	0.3403	0.6508
29	$-647504x^2 - 361340x + 629771$	[1, -1, 1, 1]	$1/2 x$	-1	0.1342	0.3029
30	$-665237x^2 - 1316985x + 1352451$	[0, -1, 2, 1]	$x^2 - 3x + 1$	0	0.3988	0.8735
31	$-1656348x^2 + 343607x + 665237$	[1, 1, 1, 1]	$1/2 x$	-1	0.2231	0.2687
32	$-2647459x^2 + 2004199x - 21977$	[0, -1, 2, 1]	$x^2 - 3x + 1$	0	0.3883	0.6109
33	$-2969089x^2 - 1334718x + 2647459$	[1, 1, 1, 1]	$1/2 x$	-1	0.1821	0.3638
34	$-3290719x^2 - 4673635x + 5316895$	[0, -1, 2, 1]	$x^2 - 3x + 1$	0	0.3980	0.8579
35	$-3982177x^2 + 5686723x - 2026176$	[1, 2, -1, 1]	$1/2 x - 1$	-1	0.2855	0.4617
36	$-7272896x^2 + 1013088x + 3290719$	[0, 1, 1, 1]	$1/2 x^2 - 1/2 x - 1/2$	0	0.2777	0.3400
37	$-11255073x^2 + 6699811x + 1264543$	[0, 1, 2, 1]	$x^2 - 3x + 1$	0	0.4531	0.6194
38	$-2277631x^2 - 11695076x + 9990530$	[1, 1, -1, 1]	$1/2 x - 1$	-1	0.3068	0.5423
39	$-13532704x^2 - 4995265x + 11255073$	[0, 1, 1, 1]	$1/2 x^2 - 1/2 x - 1/2$	0	0.2443	0.4466
40	$-16250338x^2 + 19407975x - 5435268$	[1, 1, -1, 1]	$-x^2 + 4x - 2$	1	0.2147	0.3820

41	$-32060673x^2 + 2717634x + 15810335$	$[1, 1, 1, 1]$	$1/2x^2 - 1/2x - 1/2$	1	0.3485	0.4357
42	$-13092701x^2 - 41093581x + 37935944$	$[1, -2, 1, 1]$	$-x^2 + 4x - 2$	1	0.2446	0.4778
43	$-61403712x^2 - 18967972x + 48311011$	$[1, 1, 1, 1]$	$1/2x^2 - 1/2x - 1/2$	1	0.3248	0.5568
44	$-67278983x^2 + 65936824x - 11750542$	$[1, -2, 1, 1]$	$-x^2 + 4x - 2$	1	0.1666	0.3317
45	$-135900125x^2 - 79029525x + 134557966$	$[1, 2, 0, 1]$	$x$	1	0.5070	1.175
46	$141775396x^2 - 5875271x - 74496413$	$[1, -1, -1, 1]$	$-1/4x^2 + 1/4x + 3/4$	1	0.4400	0.5622
47	$68621142x^2 + 144966349x - 146308508$	$[1, -1, 0, 1]$	$-x^2 + 4x - 2$	1	0.2002	0.4407
48	$-277675521x^2 - 73154254x + 209054379$	$[1, -1, 0, 1]$	$-1/2x^2 + 1/2x + 1/2$	1	0.4288	0.7017
49	$282208633x^2 - 222653715x + 9066224$	$[1, -2, -1, 1]$	$x^2 - 4x + 2$	1	0.1892	0.3072
50	$286741745x^2 - 518461684x + 227186827$	$[0, 1, 2, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.2176	0.3259
51	$341763551x^2 + 513928572x - 573483490$	$[1, -2, -1, 1]$	$x$	-1	0.1986	0.4286
52	$55021806x^2 + 1032390256x - 800670317$	$[0, -1, 1, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.2192	0.3517
53	$1197455674x^2 - 745648511x - 110043612$	$[1, 2, 1, 1]$	$x$	-1	0.2200	0.3072
54	$-1142433868x^2 + 1778038767x - 690626705$	$[0, 1, -1, 1]$	$-1/2x^2 + 3/2x - 1/2$	0	0.1652	0.2584
55	$1649262837x^2 + 1833060573x - 2284867736$	$[1, 2, 1, 1]$	$-x$	1	0.2035	0.4406
56	$506828969x^2 + 3611099340x - 2975494441$	$[0, 1, 1, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.1732	0.2942
57	$5131586247x^2 - 2468665472x - 1013657938$	$[1, -2, 1, 1]$	$x$	-1	0.2609	0.3314
58	$4624757278x^2 - 6079764812x + 1961836503$	$[0, -1, 1, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.1247	0.2099
59	$7794507022x^2 + 6586593781x - 9249514556$	$[1, 2, 1, 1]$	$x$	-1	0.2154	0.4775
60	$-3169749744x^2 - 12666358593x + 11211351059$	$[0, 1, -1, 1]$	$-1/2x^2 + 3/2x - 1/2$	0	0.1376	0.2540
61	$19005858081x^2 - 20707959908x + 4871851571$	$[1, 3, 0, 1]$	$1 - x$	1	0.09344	0.1773
62	$36309614335x^2 + 23877709652x - 38011716162$	$[1, -3, 1, 1]$	$x$	1	0.2348	0.5418
63	$17303756254x^2 + 44585669560x - 42883567733$	$[0, -1, 1, 1]$	$1/2x^2 - 3/2x + 1/2$	0	0.1101	0.2285
64	$-79193182068x^2 + 70165481039x - 8276055225$	$[1, -4, 0, 1]$	$1 - x$	1	0.08824	0.1585
65	$88220883097x^2 + 157634718332x - 166662419361$	$[1, 3, 0, 1]$	$1 - x$	1	0.09930	0.2160
66	$334076484526x^2 - 236076254596x - 9779346833$	$[1, -4, 0, 1]$	$x - 1$	1	0.1014	0.1521
67	$-432076714456x^2 - 560373392289x + 658373622219$	$[1, -4, 0, 1]$	$1 - x$	1	0.1001	0.2156
68	$1424526821201x^2 - 786670300052x - 205779806693$	$[1, 4, 0, 1]$	$1 - x$	1	0.1190	0.1578
69	$2062383342350x^2 + 2005417314560x - 2643273835709$	$[1, -4, 0, 1]$	$x - 1$	1	0.1041	0.2275
70	$-6130183999260x^2 + 2586307807919x + 1481492848991$	$[1, -4, 0, 1]$	$1 - x$	1	0.1423	0.1760
71	$9674060190601x^2 + 7234998958188x - 10778875149529$	$[1, 4, 0, 1]$	$1 - x$	1	0.1118	0.2522
72	$26583119339390x^2 - 8339813917116x - 8569245231673$	$[1, -4, 0, 1]$	$x - 1$	1	0.1728	0.2078
73	$44596993447107x^2 - 44138130817993x + 8110382602559$	$[1, -3, 3, 1]$	$x^2 - 3x + 1$	1	0.3314	0.6669
74	$44826424761664x^2 + 26353688024833x - 44596993447107$	$[1, 3, -1, 1]$	$1/2x$	1	0.1249	0.2916
75	$45055856076221x^2 + 96845506867659x - 97304369496773$	$[0, -1, 2, 1]$	$x^2 - 3x + 1$	0	0.4008	0.8838
76	$116006537548161x^2 - 26124256710276x - 45055856076221$	$[1, 1, 1, 1]$	$1/2x$	1	0.2125	0.2553
77	$186957219020101x^2 - 149094020288211x + 7192657344331$	$[0, -1, 2, 1]$	$x^2 - 3x + 1$	0	0.3760	0.6157
78	$205888818386046x^2 + 97074938182216x - 186957219020101$	$[1, 1, 1, 1]$	$1/2x$	1	0.1701	0.3481
79	$224820417751991x^2 + 343243896652643x - 381107095384533$	$[0, -1, 2, 1]$	$x^2 - 3x + 1$	0	0.3970	0.8572
80	$284032157202317x^2 - 421387235468914x + 156286677632542$	$[1, 2, -1, 1]$	$1/2x - 1$	1	0.3044	0.4845

Number:  $\xi = .6527\dots$  Equation:  $x^3 - 3x^2 + 1 = 0$ . “All” optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$x^2 - 4x + 2$	-1	0.07873	0.2362
2	$-3x^2 + 2x$	$[2, -3, 0, 1]$	$x - 1$	-2	0.2461	0.3554
3	$-4x^2 - 2x + 3$	$[1, 6, 1, 2]$	$x - 1$	-1	0.1519	0.2754
4	$x^2 + 7x - 5$	$[1, 2, -2, 1]$	$-x^2 + 3x - 1$	-1	0.2476	0.3789
5	$5x^2 + 9x - 8$	$[0, -1, 1, 1]$	$x^2 - 2x$	0	0.3599	0.7553
6	$-10x^2 + 5x + 1$	$[1, 2, 1, 1]$	$-1/3x^2 + 1/3x + 2/3$	-1	0.3298	0.4155
7	$-9x^2 + 12x - 4$	$[1, 0, 1, 1]$	$x^2 - 3x + 1$	-1	0.2527	0.4229
8	$15x^2 + 4x - 9$	$[1, -1, 0, 1]$	$-x$	-1	0.2577	0.3688
9	$6x^2 + 16x - 13$	$[0, 1, 1, 1]$	$x^2 - 3x + 1$	0	0.1560	0.2809
10	$21x^2 + 20x - 22$	$[0, 1, 2, 1]$	$x^2 - 2x$	0	0.2594	0.7101
11	$-28x^2 + 29x - 7$	$[1, 2, 0, 1]$	$1/3x^2 - 4/3x + 1/3$	-1	0.1780	0.3543
12	$27x^2 + 36x - 35$	$[1, 1, 0, 1]$	$1 - x$	-1	0.09526	0.2389
13	$82x^2 + 43x - 63$	$[0, -1, 2, 1]$	$x^2 - 2x$	0	0.4346	0.8107
14	$-90x^2 + 71x - 8$	$[1, 3, -1, 1]$	$1/3x^2 - 4/3x + 1/3$	-1	0.2068	0.3371
15	$109x^2 + 79x - 98$	$[1, 1, 0, 1]$	$1 - x$	-1	0.1053	0.2458
16	$11x^2 + 264x - 177$	$[1, 2, 1, 1]$	$x^2 - 3x + 1$	-1	0.3288	0.4771
17	$-297x^2 + 177x + 11$	$[1, -2, 1, 1]$	$-x$	-1	0.2716	0.3684
18	$417x^2 + 166x - 286$	$[1, 1, -1, 1]$	$1 - x$	-1	0.1859	0.3029
19	$131x^2 + 607x - 452$	$[1, 1, 1, 1]$	$x^2 - 3x + 1$	-1	0.2096	0.3356
20	$548x^2 + 773x - 738$	$[0, 1, 1, 1]$	$x^2 - 2x$	0	0.2990	0.7217
21	$-1000x^2 + 452x + 131$	$[1, -2, 1, 1]$	$-1/3x^2 + 1/3x + 2/3$	1	0.3714	0.4536
22	$-869x^2 + 1059x - 321$	$[1, 0, 1, 1]$	$x^2 - 3x + 1$	1	0.2216	0.3912
23	$679x^2 + 1380x - 1190$	$[1, -1, 1, 1]$	$1 - x$	1	0.1307	0.2595
24	$2227x^2 + 1701x - 2059$	$[0, -1, 2, 1]$	$x^2 - 2x$	0	0.2993	0.7298
25	$-2738x^2 + 2570x - 511$	$[1, 2, 0, 1]$	$1/3x^2 - 4/3x + 1/3$	1	0.1787	0.3423
26	$2906x^2 + 3081x - 3249$	$[1, 1, 0, 1]$	$1 - x$	1	0.08738	0.2358
27	$8550x^2 + 3592x - 5987$	$[0, -1, 2, 1]$	$x^2 - 2x$	0	0.5321	0.8869
28	$-8893x^2 + 6330x - 343$	$[1, 3, -1, 1]$	$1/3x^2 - 4/3x + 1/3$	1	0.2273	0.3429
29	$11456x^2 + 6673x - 9236$	$[1, 1, 0, 1]$	$1 - x$	1	0.1310	0.2606
30	$2220x^2 + 22925x - 15909$	$[1, 2, 1, 1]$	$x^2 - 3x + 1$	1	0.2792	0.4163
31	$-29585x^2 + 15909x + 2220$	$[1, -2, 1, 1]$	$-x$	1	0.3035	0.3929
32	$-27365x^2 + 38834x - 13689$	$[0, 1, 1, 1]$	$x^2 - 3x + 1$	0	0.2782	0.4510
33	$43261x^2 + 13689x - 27365$	$[1, 1, -1, 1]$	$-x$	-1	0.2254	0.3381
34	$15896x^2 + 52523x - 41054$	$[0, 1, 1, 1]$	$x^2 - 3x + 1$	0	0.1768	0.3009
35	$59157x^2 + 66212x - 68419$	$[0, 1, 2, 1]$	$x^2 - 2x$	0	0.2638	0.7080
36	$-84315x^2 + 93577x - 25158$	$[1, 2, 0, 1]$	$1/3x^2 - 4/3x + 1/3$	-1	0.1949	0.3671
37	$75053x^2 + 118735x - 109473$	$[1, 1, 0, 1]$	$1 - x$	-1	0.1090	0.2451
38	$234421x^2 + 143893x - 193788$	$[0, -1, 2, 1]$	$x^2 - 2x$	0	0.3735	0.7694
39	$-268841x^2 + 228208x - 34420$	$[1, 3, -1, 1]$	$1/3x^2 - 4/3x + 1/3$	-1	0.1940	0.3369
40	$309474x^2 + 262628x - 303261$	$[1, 1, 0, 1]$	$1 - x$	-1	0.08927	0.2393

41	$6213x^2 + 862937x - 565889$	$[1, 2, 1, 1]$	$x^2 - 3x + 1$	-1	0.3693	0.5282
42	$-881576x^2 + 565889x + 6213$	$[1, -2, 1, 1]$	$-x$	-1	0.2516	0.3553
43	$1197263x^2 + 559676x - 875363$	$[1, 1, -1, 1]$	$1 - x$	-1	0.1612	0.2825
44	$321900x^2 + 1988502x - 1435039$	$[1, 1, 1, 1]$	$x^2 - 3x + 1$	-1	0.2365	0.3659
45	$1519163x^2 + 2548178x - 2310402$	$[0, 1, 1, 1]$	$x^2 - 2x$	0	0.3416	0.7438
46	$-2954202x^2 + 1435039x + 321900$	$[1, -2, 1, 1]$	$-1/3x^2 + 1/3x + 2/3$	1	0.3408	0.4252
47	$-2632302x^2 + 3423541x - 1113139$	$[1, 0, 1, 1]$	$x^2 - 3x + 1$	1	0.2435	0.4132
48	$4473365x^2 + 1113139x - 2632302$	$[1, -1, 0, 1]$	$-x$	1	0.2714	0.3821
49	$1841063x^2 + 4536680x - 3745441$	$[0, 1, 1, 1]$	$x^2 - 3x + 1$	0	0.1485	0.2742
50	$6314428x^2 + 5649819x - 6377743$	$[0, 1, 2, 1]$	$x^2 - 2x$	0	0.2581	0.7136
51	$-8218806x^2 + 8282121x - 1904378$	$[1, 2, 0, 1]$	$1/3x^2 - 4/3x + 1/3$	1	0.1719	0.3502
52	$8155491x^2 + 10186499x - 10123184$	$[1, 1, 0, 1]$	$1 - x$	1	0.09030	0.2374
53	$-24529788x^2 - 12090877x + 18341990$	$[0, 1, -2, 1]$	$-x^2 + 2x$	0	0.4605	0.8298
54	$-26497481x^2 + 20309683x - 1967693$	$[1, 3, -1, 1]$	$-1/3x^2 + 4/3x - 1/3$	-1	0.2122	0.3381
55	$32685279x^2 + 22277376x - 28465174$	$[1, -1, 0, 1]$	$1 - x$	-1	0.1121	0.2493
56	$-4220105x^2 - 74987619x + 50742550$	$[1, -2, -1, 1]$	$-x^2 + 3x - 1$	-1	0.3141	0.4589
57	$-87647934x^2 + 50742550x + 4220105$	$[1, -2, -1, 1]$	$x$	-1	0.2801	0.3746
58	$124553318x^2 + 46522445x - 83427829$	$[1, -1, -1, 1]$	$1 - x$	-1	0.1964	0.3119
59	$-41125489x^2 - 172252614x + 129950274$	$[1, -1, -1, 1]$	$-x^2 + 3x - 1$	-1	0.1999	0.3250
60	$-165678807x^2 - 218775059x + 213378103$	$[0, -1, 1, 1]$	$x^2 - 2x$	0	0.2835	0.7159
61	$-295629081x^2 + 129950274x + 41125489$	$[1, -2, -1, 1]$	$1/3x^2 - 1/3x - 2/3$	-1	0.3843	0.4660
62	$254503592x^2 - 302202888x + 88824785$	$[1, 0, -1, 1]$	$-x^2 + 3x - 1$	-1	0.2137	0.3837
63	$-206804296x^2 - 391027673x + 343328377$	$[1, 1, 1, 1]$	$1 - x$	-1	0.1242	0.2548
64	$-668112184x^2 - 479852458x + 597831969$	$[0, -1, 2, 1]$	$x^2 - 2x$	0	0.3190	0.7389
65	$-804636265x^2 + 734356050x - 136524081$	$[1, -2, 0, 1]$	$-1/3x^2 + 4/3x - 1/3$	-1	0.1827	0.3401
66	$-874916480x^2 - 870880131x + 941160346$	$[1, 1, 0, 1]$	$x - 1$	-1	0.08681	0.2362
67	$-2554469225x^2 - 1007404212x + 1745796611$	$[0, 1, 2, 1]$	$x^2 - 2x$	0	0.5624	0.9125
68	$2620713091x^2 - 1812040477x + 66243866$	$[1, -3, -1, 1]$	$1/3x^2 - 4/3x + 1/3$	1	0.2338	0.3457
69	$-3429385705x^2 - 1878284343x + 2686956957$	$[1, 1, 0, 1]$	$1 - x$	1	0.1390	0.2661
70	$-742428748x^2 - 6509769509x + 4565241300$	$[1, 2, 1, 1]$	$x^2 - 3x + 1$	1	0.2665	0.4011
71	$-4171814453x^2 - 8388053852x + 7252198257$	$[0, 1, 1, 1]$	$x^2 - 2x$	0	0.3892	0.7763
72	$8737055753x^2 - 4565241300x - 742428748$	$[1, -2, 1, 1]$	$-1/3x^2 + 1/3x + 2/3$	-1	0.3134	0.4012
73	$7994627005x^2 - 11075010809x + 3822812552$	$[1, 0, 1, 1]$	$x^2 - 3x + 1$	-1	0.2679	0.4395
74	$-12908870206x^2 - 3822812552x + 7994627005$	$[1, -1, 0, 1]$	$-x$	-1	0.2376	0.3495
75	$-4914243201x^2 - 14897823361x + 11817439557$	$[0, 1, 1, 1]$	$x^2 - 3x + 1$	0	0.1684	0.2926
76	$-17823113407x^2 - 18720635913x + 19812066562$	$[0, 1, 2, 1]$	$x^2 - 2x$	0	0.2619	0.7076
77	$24726309763x^2 - 26715262918x + 6903196356$	$[1, 2, 0, 1]$	$1/3x^2 - 4/3x + 1/3$	-1	0.1880	0.3617
78	$-22737356608x^2 - 33618459274x + 31629506119$	$[1, 1, 0, 1]$	$1 - x$	-1	0.1034	0.2423
79	$-70201022979x^2 - 40521655630x + 56355815882$	$[0, -1, 2, 1]$	$x^2 - 2x$	0	0.3965	0.7842
80	$79093172490x^2 - 65247965393x + 8892149511$	$[1, 3, -1, 1]$	$1/3x^2 - 4/3x + 1/3$	-1	0.1988	0.3366

Number:  $\xi = .2865\dots$  Equation:  $x^3 - 2x^2 - 3x + 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 3x + 1$	$[1, -3, -2, 1]$	$-x$	-1	0.2116	0.3291
2	$-2x^2 + 4x - 1$	$[1, -4, -1, 1]$	$-x^2 + 3x$	-1	0.2924	0.3837
3	$-5x^2 - 2x + 1$	$[1, 2, 1, 1]$	$x^2 - 1$	-1	0.4193	0.5032
4	$-7x^2 + 2x$	$[0, 1, 1, 1]$	$2/3x^2 - 5/3x + 1/3$	0	0.07347	0.07947
5	$-12x^2 - 21x + 7$	$[3, -2, 2, 1]$	$x$	3	0.1894	0.2723
6	$-33x^2 - 8x + 5$	$[1, 10, 2, 3]$	$x - 1$	1	0.3338	0.3611
7	$-45x^2 - 29x + 12$	$[0, 1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.2492	0.3704
8	$-49x^2 + 28x - 4$	$[1, -2, 2, 1]$	$x^2 - 3x + 1$	-1	0.06579	0.08771
9	$-70x^2 - 151x + 49$	$[1, 3, -2, 1]$	$x$	-1	0.1790	0.2363
10	$221x^2 + 10x - 21$	$[1, -4, -1, 1]$	$1 - x$	-1	0.2735	0.2766
11	$291x^2 + 161x - 70$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1904	0.2597
12	$-351x^2 + 310x - 60$	$[1, -2, -2, 1]$	$-x^2 + 3x - 1$	-1	0.06168	0.1116
13	$392x^2 + 1113x - 351$	$[1, 3, 2, 1]$	$-x$	-1	0.1777	0.2174
14	$-1505x^2 + 288x + 41$	$[1, 4, -1, 1]$	$1 - x$	-1	0.2318	0.2405
15	$-1897x^2 - 825x + 392$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1478	0.1821
16	$-2577x^2 + 3112x - 680$	$[1, 2, 2, 1]$	$x^2 - 3x + 1$	-1	0.08860	0.1536
17	$-2042x^2 - 8411x + 2577$	$[1, 3, -2, 1]$	$x$	-1	0.1854	0.2137
18	$10453x^2 - 4862x + 535$	$[1, -4, -1, 1]$	$1 - x$	-1	0.2043	0.2491
19	$12495x^2 + 3549x - 2042$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1172	0.1298
20	$-19399x^2 + 29658x - 6904$	$[1, -2, -2, 1]$	$-x^2 + 3x - 1$	-1	0.1470	0.2179
21	$63982x^2 + 37679x - 16044$	$[2, 5, 1, 1]$	$-x^2 + 1$	-2	0.6282	0.8855
22	$9140x^2 + 65101x - 19399$	$[1, 3, 1, 2]$	$-1/3x^2 + 4/3x - 2/3$	-1	0.2030	0.2250
23	$-74241x^2 + 57080x - 10259$	$[1, -1, 1, 1]$	$1 - x$	-1	0.1883	0.3033
24	$-83381x^2 - 8021x + 9140$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.09537	0.09740
25	$91402x^2 + 232982x - 74241$	$[1, 3, 0, 1]$	$1 - x$	-1	0.5313	0.6670
26	$174783x^2 + 241003x - 83381$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.2282	0.3756
27	$-149601x^2 + 274020x - 66220$	$[1, 2, 1, 1]$	$x^2 - 3x$	-1	0.2294	0.3111
28	$415786x^2 + 199965x - 91402$	$[1, 1, -1, 1]$	$-x^2 + 1$	-1	0.4847	0.6203
29	$25182x^2 + 515023x - 149601$	$[1, 1, 0, 1]$	$-1/3x^2 + 4/3x - 2/3$	-1	0.2321	0.2522
30	$-565387x^2 + 74055x + 25182$	$[1, -1, 0, 1]$	$-x$	-1	0.08013	0.08166
31	$1056719x^2 + 1670979x - 565387$	$[1, 3, -1, 1]$	$-x$	-1	0.2005	0.3036
32	$-1179647x^2 + 2482222x - 614260$	$[1, 4, 1, 1]$	$x^2 - 3x$	-1	0.3439	0.4426
33	$2727698x^2 + 933791x - 491332$	$[1, 2, -1, 1]$	$-x^2 + 1$	-1	0.3812	0.4383
34	$3784417x^2 + 2604770x - 1056719$	$[1, 0, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	-1	0.2946	0.4571
35	$-3907345x^2 + 1548431x - 122928$	$[1, -1, 0, 1]$	$-x^2 + 3x - 1$	-1	0.06993	0.08098
36	$6266259x^2 + 11844963x - 3907345$	$[1, 3, 2, 1]$	$-x$	-1	0.1841	0.2556
37	$-18111222x^2 - 3046469x + 2358914$	$[1, 4, -1, 1]$	$1 - x$	-1	0.3071	0.3210
38	$-24377481x^2 - 14891432x + 6266259$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.2234	0.3215
39	$-27597271x^2 + 19145419x - 3219790$	$[1, 2, 2, 1]$	$x^2 - 3x + 1$	-1	0.06374	0.09529
40	$-36049123x^2 - 86011603x + 27597271$	$[1, 3, -2, 1]$	$x$	-1	0.1774	0.2268

41	$122060726x^2 - 5461505x - 8451852$	$[1, -4, -1, 1]$	$1 - x$	-1	0.2549	0.25
42	$158109849x^2 + 80550098x - 36049123$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1717	0.22
43	$-199620477x^2 + 202091635x - 41510628$	$[1, -2, -2, 1]$	$-x^2 + 3x - 1$	-1	0.06246	0.12
44	$197149319x^2 + 640372059x - 199620477$	$[1, 3, 2, 1]$	$-x$	-1	0.1797	0.21
45	$-837521378x^2 + 248544579x - 2471158$	$[1, 4, -1, 1]$	$1 - x$	-1	0.2193	0.23
46	$-1034670697x^2 - 391827480x + 197149319$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1344	0.15
47	$-1480364595x^2 + 1979924911x - 445693898$	$[1, 2, 2, 1]$	$x^2 - 3x + 1$	-1	0.1095	0.17
48	$-980804279x^2 - 4886787683x + 1480364595$	$[1, 3, -2, 1]$	$x$	-1	0.1912	0.21
49	$5867591962x^2 - 3424739441x + 499560316$	$[1, -4, -1, 1]$	$1 - x$	-1	0.1967	0.26
50	$6848396241x^2 + 1462048242x - 980804279$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1076	0.11
51	$8310444483x^2 + 18102336202x - 5867591962$	$[1, -4, 1, 1]$	$x - 1$	-1	0.5362	0.70
52	$11253939961x^2 - 18602979159x + 4405543720$	$[1, 2, -1, 1]$	$-1/3x^2 + 4/3x - 2/3$	-1	0.1767	0.25
53	$34723225168x^2 + 19063741487x - 8310444483$	$[1, 2, 1, 1]$	$x^2 - 1$	-1	0.5652	0.76
54	$-3904900763x^2 - 38167363603x + 11253939961$	$[1, 2, -1, 1]$	$1/3x^2 - 4/3x + 2/3$	-1	0.2131	0.23
55	$42072264366x^2 - 37706601275x + 7349039198$	$[1, 1, 1, 1]$	$1 - x$	-1	0.1848	0.33
56	$45977165129x^2 + 460762328x - 3904900763$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.08858	0.08
57	$46437927457x^2 + 133565832296x - 42072264366$	$[1, -3, 0, 1]$	$x - 1$	-1	0.5334	0.65
58	$92415092586x^2 + 134026594624x - 45977165129$	$[0, 1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.2156	0.34
59	$87588667167x^2 - 170350908915x + 41611502038$	$[1, 2, -1, 1]$	$-x^2 + 3x$	1	0.2708	0.35
60	$226441687210x^2 + 97241518005x - 46437927457$	$[1, 1, 1, 1]$	$x^2 - 1$	1	0.4392	0.53
61	$4826425419x^2 + 304377503539x - 87588667167$	$[1, -1, 0, 1]$	$-1/3x^2 + 4/3x - 2/3$	1	0.2476	0.26
62	$314030354377x^2 - 73109390910x - 4826425419$	$[1, 1, 0, 1]$	$x$	1	0.07551	0.07
63	$554951317844x^2 + 937264637712x - 314030354377$	$[1, 3, 1, 1]$	$x$	1	0.1927	0.28
64	$-1492215955556x^2 - 413558961443x + 240920963467$	$[1, -3, -1, 1]$	$1 - x$	1	0.3485	0.38
65	$-2047167273400x^2 - 1350823599155x + 554951317844$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.2633	0.39
66	$2188559629801x^2 - 1120520743448x + 141392356401$	$[1, -2, -2, 1]$	$-x^2 + 3x - 1$	1	0.06702	0.08
67	$-3256598516154x^2 - 6707071245804x + 2188559629801$	$[1, 3, 2, 1]$	$-x$	1	0.1803	0.24
68	$9963669761958x^2 + 874164672857x - 1068038886353$	$[1, 4, -1, 1]$	$1 - x$	1	0.2839	0.28
69	$13220268278112x^2 + 7581235918661x - 3256598516154$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.2007	0.27
70	$15602702121409x^2 - 12786333889342x + 2382433843297$	$[1, 2, 2, 1]$	$x^2 - 3x + 1$	1	0.06224	0.10
71	$18419070353476x^2 + 49190540207524x - 15602702121409$	$[1, 3, -2, 1]$	$x$	1	0.1772	0.21
72	$-67609610561000x^2 + 9536031268505x + 2816368232067$	$[1, -4, -1, 1]$	$1 - x$	1	0.2389	0.24
73	$-86028680914476x^2 - 39654508939019x + 18419070353476$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1553	0.19
74	$113983782536457x^2 - 130239476841400x + 27955101621981$	$[1, -2, -2, 1]$	$-x^2 + 3x - 1$	1	0.07924	0.14
75	$-97728088231514x^2 - 369906449231352x + 113983782536457$	$[1, 3, 2, 1]$	$-x$	1	0.1831	0.21
76	$467634537462866x^2 - 190705967073267x + 16255694304943$	$[1, 4, -1, 1]$	$1 - x$	1	0.2088	0.24
77	$565362625694380x^2 + 179200482158085x - 97728088231514$	$[0, -1, 1, 1]$	$1/3x^2 - 1/3x - 1/3$	0	0.1225	0.13
78	$853796680999161x^2 - 1251464309450638x + 288434055304781$	$[1, 2, 2, 1]$	$x^2 - 3x + 1$	1	0.1337	0.20
79	$456129052547684x^2 + 2849824098302264x - 853796680999161$	$[1, 3, -2, 1]$	$x$	1	0.1986	0.22
80	$-3305953150849948x^2 + 2335233621658373x - 397667628451477$	$[1, -4, -1, 1]$	$1 - x$	1	0.1907	0.28

Number:  $\xi = .5293\dots$  Equation:  $x^3 - 2x^2 - 3x + 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$-1/4 x^2 + 3/4$	-1	0.1905	0.5715
2	$-2x^2 + x$	[1, -2, 0, 1]	$-x^2 + 4x - 2$	-1	0.1241	0.1552
3	$-2x^2 + 3x - 1$	[1, -1, 2, 1]	$1/2 x^2 - x - 1/2$	-1	0.2484	0.3864
4	$-4x^2 + 4x - 1$	[0, 1, 1, 1]	$1/2 x^2 - 1/2 x$	0	0.05501	0.1134
5	$-4x^2 - 13x + 8$	[2, 7, -6, 1]	$x$	2	0.3075	0.4531
6	$-17x^2 + 9x$	[1, 7, 1, 2]	$x - 1$	1	0.2475	0.3169
7	$21x^2 + 21x - 17$	[1, -2, -1, 1]	$-1/2 - 1/2 x$	1	0.2888	0.7669
8	$4x^2 + 30x - 17$	[0, 1, 1, 1]	$x^2 - 3x + 1$	0	0.1814	0.2429
9	$-34x^2 + 35x - 9$	[1, 3, 1, 1]	$1 - x$	-1	0.1162	0.2336
10	$-72x^2 + 40x - 1$	[0, -1, 2, 1]	$1/2 x^2 - 1/2 x$	0	0.06127	0.08019
11	$104x^2 + 217x - 144$	[2, 7, -1, 1]	$-x$	-2	0.2946	0.4920
12	$32x^2 + 257x - 145$	[0, 1, 1, 1]	$1/2 x^2 - x - 1/2$	0	0.3674	0.4901
13	$-289x^2 + 306x - 81$	[1, 9, 1, 2]	$1 - x$	1	0.2452	0.4810
14	$457x^2 + 425x - 353$	[1, 2, -1, 1]	$-1/2 x^2 + 1$	1	0.4702	1.157
15	$-136x^2 - 474x + 289$	[1, -1, -1, 1]	$-x^2 + 3x - 1$	1	0.1557	0.2264
16	$-610x^2 + 355x - 17$	[1, -1, -1, 1]	$x - 1$	1	0.1214	0.1626
17	$-1356x^2 + 236x + 255$	[0, 1, 2, 1]	$1/2 x^2 - 1/2 x$	0	0.07471	0.07962
18	$2476x^2 + 3813x - 2712$	[2, -7, -1, 1]	$-x$	-2	0.3127	0.6027
19	$1120x^2 + 4049x - 2457$	[0, 1, 1, 1]	$1/2 x^2 - x - 1/2$	0	0.3135	0.4530
20	$-5169x^2 + 3146x - 217$	[1, 9, 1, 2]	$1 - x$	1	0.2405	0.3300
21	$3596x^2 + 7862x - 5169$	[1, 1, 0, 1]	$-1/2 x$	1	0.1473	0.2417
22	$11458x^2 - 2243x - 2023$	[1, -2, 0, 1]	$x - 1$	1	0.1472	0.1574
23	$26512x^2 + 3376x - 9215$	[0, 1, 2, 1]	$1/2 x^2 - 1/2 x$	0	0.09818	0.1116
24	$29888x^2 + 66945x - 43809$	[2, 8, 1, 1]	$x - 1$	-2	0.2947	0.4796
25	$40433x^2 - 91411x + 37057$	[1, 6, -3, 2]	$-1/2 x^2 + 3/2 x$	-1	0.3592	0.4886
26	$96833x^2 - 21090x - 15967$	[1, 1, 1, 1]	$x^2 - 1$	-1	0.2902	0.3118
27	$86288x^2 + 137266x - 96833$	[1, -1, 1, 1]	$1/2 x$	-1	0.1543	0.2921
28	$223554x^2 + 24765x - 75743$	[1, 1, 1, 1]	$x - 1$	-1	0.1927	0.2171
29	$285077x^2 - 383358x + 123046$	[1, -3, 2, 1]	$1/2 x^2 - 3/2 x + 1$	-1	0.1961	0.3247
30	$533396x^2 + 186796x - 248319$	[1, 2, 0, 1]	$1/2 x^2 - 1/2$	-1	0.1366	0.1830
31	$720192x^2 + 1165073x - 818473$	[1, -2, 2, 1]	$x - 1$	-1	0.3068	0.5755
32	$631677x^2 - 1174839x + 444881$	[1, 2, -1, 1]	$-1/2 x^2 + 3/2 x$	-1	0.2040	0.2922
33	$1885265x^2 + 177030x - 621911$	[1, 1, 1, 1]	$x^2 - 1$	-1	0.3781	0.4226
34	$88515x^2 + 2339912x - 1263354$	[1, -1, 0, 1]	$1/2 x - 1$	-1	0.4283	0.5538
35	$1973780x^2 + 2516942x - 1885265$	[0, 1, 1, 1]	$1/2 x^2 - 1/2$	0	0.1784	0.3881
36	$4490722x^2 + 1519133x - 2062295$	[1, 2, 1, 1]	$x - 1$	1	0.2673	0.3542
37	$-4945369x^2 + 4335530x - 909294$	[1, 2, -2, 1]	$-1/2 x^2 + 3/2 x - 1$	1	0.1122	0.2022
38	$-5400016x^2 + 10190193x - 3880883$	[0, 1, 2, 1]	$1/2 x^2 - x - 1/2$	0	0.4235	0.6039
39	$10955224x^2 + 5555208x - 6009855$	[1, 2, 0, 1]	$-1/2 x^2 - 1/2 x$	-1	0.1981	0.3087
40	$-10345385x^2 + 14525723x - 4790177$	[1, 1, 0, 1]	$-x^2 + 3x - 1$	-1	0.1072	0.1732



41	$6165047x^2 + 35826332x - 20690770$	$[1, 2, 1, 1]$	$-x$	-1	0.3452	0.4706
42	$41991379x^2 - 38021961x + 8360676$	$[1, -3, 0, 1]$	$x - 1$	-1	0.2232	0.4151
43	$43976088x^2 + 48156426x - 37811041$	$[1, 2, 1, 1]$	$1/2x + 1/2$	-1	0.2245	0.5501
44	$1984709x^2 + 86178387x - 46171717$	$[0, -1, 1, 1]$	$x^2 - 3x + 1$	0	0.2213	0.2849
45	$90147805x^2 - 40217590x - 3969418$	$[1, 2, 0, 1]$	$x$	-1	0.1282	0.1539
46	$88163096x^2 - 126395977x + 42202299$	$[0, -1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.2240	0.3580
47	$178310901x^2 - 166613567x + 38232881$	$[0, -1, 2, 1]$	$1/2x^2 - 1/2x$	0	0.05554	0.1066
48	$190008235x^2 + 573165584x - 356621802$	$[2, 6, 1, 1]$	$x$	2	0.3037	0.4547
49	$11697334x^2 + 739779151x - 394854683$	$[0, -1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.4500	0.5783
50	$763173819x^2 - 359762681x - 23394668$	$[1, 7, 1, 2]$	$x$	1	0.2535	0.3100
51	$964879388x^2 + 953182054x - 774871153$	$[1, 1, 1, 1]$	$1/2x + 1/2$	1	0.3098	0.8120
52	$201705569x^2 + 1312944735x - 751476485$	$[0, -1, 1, 1]$	$x^2 - 3x + 1$	0	0.1766	0.2386
53	$-1514650304x^2 + 1459304513x - 348065347$	$[1, -2, 0, 1]$	$1 - x$	1	0.1106	0.2191
54	$-3231006177x^2 + 1605664291x + 55345791$	$[0, -1, 2, 1]$	$1/2x^2 - 1/2x$	0	0.06269	0.07819
55	$4856348063x^2 + 9637672740x - 6462012354$	$[2, 7, -1, 1]$	$-x$	2	0.2952	0.5029
56	$1625341886x^2 + 11243337031x - 6406666563$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.3573	0.4808
57	$-12868678917x^2 + 12773977936x - 3155982791$	$[1, 9, 1, 2]$	$1 - x$	-1	0.2203	0.4507
58	$6481689949x^2 + 20881009771x - 12868678917$	$[1, 1, 0, 1]$	$-1/2x$	-1	0.1535	0.2266
59	$27362699720x^2 - 14304618841x - 94700981$	$[1, -2, 0, 1]$	$x - 1$	-1	0.1241	0.1580
60	$-61207089389x^2 + 7728227911x + 13058080879$	$[0, -1, -2, 1]$	$-1/2x^2 + 1/2x$	0	0.07734	0.08210
61	$114685950867x^2 + 170563187288x - 122414178778$	$[2, 9, 3, 1]$	$-x$	-2	0.3179	0.6254
62	$53478861478x^2 + 178291415199x - 109356097899$	$[0, 1, 1, 1]$	$1/2x^2 - x - 1/2$	0	0.3089	0.4529
63	$231770276677x^2 - 127210928664x + 2398374943$	$[1, -9, -1, 2]$	$x - 1$	1	0.2457	0.3197
64	$168164812345x^2 + 348854602487x - 231770276677$	$[1, 1, 0, 1]$	$1/2x$	1	0.1473	0.2466
65	$517019414832x^2 - 76130442129x - 104559348013$	$[1, 2, 0, 1]$	$x - 1$	1	0.1523	0.1618
66	$1202203642009x^2 + 196593718229x - 440888972703$	$[0, 1, 2, 1]$	$1/2x^2 - 1/2x$	0	0.1026	0.1191
67	$-1398797360238x^2 - 2969128235095x + 1963518311315$	$[2, -8, -1, 1]$	$1 - x$	-2	0.2945	0.4887
68	$1766924593086x^2 - 3901976419020x + 1570330874857$	$[1, 6, 3, 2]$	$1/2x^2 - 3/2x$	-1	0.3326	0.4546
69	$4367925595333x^2 - 736254465696x - 834076409161$	$[1, -1, 1, 1]$	$x^2 - 1$	-1	0.3000	0.3195
70	$-3999798362485x^2 - 6134850188419x + 4367925595333$	$[1, 1, -1, 1]$	$-1/2x$	-1	0.1566	0.3026
71	$10134648550904x^2 + 1496619303703x - 3631671129637$	$[1, 1, -1, 1]$	$1 - x$	-1	0.2012	0.2314
72	$12637827609686x^2 - 16147566423547x + 5006358117564$	$[1, 3, 2, 1]$	$1/2x^2 - 3/2x + 1$	-1	0.1768	0.3020
73	$-24269095464293x^2 - 9128088795825x + 11631267854607$	$[1, -2, 0, 1]$	$-1/2x^2 + 1/2$	-1	0.1437	0.1971
74	$-27778834278154x^2 + 49939318574344x - 18650745482329$	$[1, -3, 0, 1]$	$x^2 - 3x + 1$	-1	0.1873	0.2714
75	$85445114002565x^2 + 11236699963928x - 29887445446257$	$[1, -3, 0, 1]$	$-x^2 + 1$	-1	0.3947	0.4498
76	$5618349981964x^2 + 101987248316791x - 55557668556308$	$[1, 2, 1, 1]$	$1/2x - 1$	-1	0.4134	0.5374
77	$91063463984529x^2 + 113223948280719x - 85445114002565$	$[0, 1, 1, 1]$	$1/2x^2 - 1/2$	0	0.1834	0.4065
78	$-204287412265248x^2 - 74521329670303x + 96681813966493$	$[1, -2, -1, 1]$	$1 - x$	1	0.2810	0.3814
79	$-220829546579474x^2 + 179392485537623x - 33084268628452$	$[1, 2, 2, 1]$	$1/2x^2 - 3/2x + 1$	1	0.1137	0.1912
80	$-237371680893700x^2 + 433306300745549x - 162850351223397$	$[0, -1, 2, 1]$	$1/2x^2 - x - 1/2$	0	0.3891	0.5609

Number:  $\xi = .7609\dots$  Equation:  $x^3 - 2x^2 - 3x + 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$1/3 x^2 - 2/3 x$	0	0.1819	0.3639
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$1/3 x^2 - 2/3 x$	-1	0.2287	0.3431
3	$3x^2 - x - 1$	$[1, 3, -1, 1]$	$x^2 - 1$	-1	0.2167	0.2648
4	$-3x^2 - 3x + 4$	$[1, 2, -2, 1]$	$-1/3 x^2 + 1$	-1	0.3109	0.6606
5	$-6x^2 - 2x + 5$	$[0, -1, 1, 1]$	$x - 1$	0	0.1673	0.3020
6	$11x^2 - 11x + 2$	$[2, 4, 1, 1]$	$-x^2 + 3x - 2$	-2	0.1666	0.3387
7	$-8x^2 - 11x + 13$	$[1, 4, 1, 2]$	$-1/3 x^2 + 1$	-1	0.1878	0.3933
8	$-19x^2 + 11$	$[0, -1, 1, 1]$	$x - 1$	0	0.09591	0.1281
9	$-19x^2 - 46x + 46$	$[1, 1, 3, 1]$	$x - 1$	-1	0.1344	0.2918
10	$-65x^2 + 35x + 11$	$[1, 4, -1, 1]$	$x - 1$	-1	0.06418	0.08463
11	$-95x^2 - 184x + 195$	$[1, 4, 0, 1]$	$x$	-1	0.4395	0.9352
12	$-30x^2 - 219x + 184$	$[0, -1, 1, 1]$	$1/3 x^2 - 2/3 x$	0	0.1742	0.3005
13	$-279x^2 + 94x + 90$	$[1, 4, 0, 1]$	$x$	-1	0.2151	0.2620
14	$-249x^2 + 313x - 94$	$[0, -1, 1, 1]$	$1/3 x^2 - 2/3 x$	0	0.08510	0.1466
15	$-185x^2 - 841x + 747$	$[1, 3, 0, 1]$	$x$	-1	0.4675	0.8589
16	$-962x^2 - 121x + 649$	$[1, 2, 1, 1]$	$1/3 x^2 + 1/3 x - 1$	-1	0.3385	0.4979
17	$-1026x^2 + 1033x - 192$	$[1, -1, 1, 1]$	$1/3 x^2 - x + 1$	-1	0.1686	0.3408
18	$-2109x^2 - 1083x + 2045$	$[1, 2, 0, 1]$	$1/3 x^2 + 1/3 x$	-1	0.3139	0.6919
19	$1090x^2 - 2187x + 1033$	$[1, -2, 0, 1]$	$-x^2 + 3x - 1$	-1	0.2376	0.3496
20	$3199x^2 - 1104x - 1012$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.2140	0.2609
21	$3192x^2 + 3199x - 4282$	$[1, -2, 0, 1]$	$1/3 x^2 - 1$	-1	0.3095	0.6541
22	$6391x^2 + 2095x - 5294$	$[0, 1, 1, 1]$	$x - 1$	0	0.1648	0.2957
23	$11784x^2 - 11989x + 2300$	$[2, 4, -1, 1]$	$x^2 - 3x + 2$	2	0.1719	0.3443
24	$8486x^2 + 11784x - 13879$	$[1, 4, -1, 2]$	$1/3 x^2 - 1$	1	0.1859	0.3894
25	$-20270x^2 + 205x + 11579$	$[0, -1, -1, 1]$	$1 - x$	0	0.09482	0.1258
26	$-49231x^2 + 38267x - 615$	$[1, -4, -1, 1]$	$x^2 - 2x$	1	0.5273	0.8460
27	$20065x^2 + 49436x - 49231$	$[1, -3, 1, 1]$	$-1/3 x$	1	0.1349	0.2908
28	$-69501x^2 + 38472x + 10964$	$[1, 1, 0, 1]$	$1 - x$	1	0.06374	0.08486
29	$100530x^2 + 197539x - 208503$	$[1, 4, -1, 1]$	$-x$	1	0.4365	0.9297
30	$31029x^2 + 236011x - 197539$	$[0, 1, 1, 1]$	$1/3 x^2 - 2/3 x$	0	0.1758	0.3019
31	$298069x^2 - 104452x - 93087$	$[1, -4, 0, 1]$	$x$	-1	0.2133	0.2603
32	$267040x^2 - 340463x + 104452$	$[0, -1, 1, 1]$	$1/3 x^2 - 2/3 x$	0	0.08746	0.1495
33	$193617x^2 + 905572x - 801120$	$[1, 3, 0, 1]$	$x$	-1	0.4708	0.8608
34	$1025766x^2 + 120194x - 685303$	$[1, 2, 1, 1]$	$1/3 x^2 + 1/3 x - 1$	-1	0.3343	0.4881
35	$1099189x^2 - 1125841x + 220269$	$[1, -1, 1, 1]$	$1/3 x^2 - x + 1$	-1	0.1740	0.3465
36	$2245149x^2 + 1145960x - 2171726$	$[1, 2, 0, 1]$	$1/3 x^2 + 1/3 x$	-1	0.3090	0.6787
37	$-1172612x^2 + 2371876x - 1125841$	$[1, -2, 0, 1]$	$-x^2 + 3x - 1$	-1	0.2427	0.3567
38	$-3417761x^2 + 1225916x + 1045885$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.2122	0.2594
39	$-3391109x^2 - 3417761x + 4563721$	$[1, -2, 0, 1]$	$1/3 x^2 - 1$	-1	0.3053	0.6452
40	$-6808870x^2 - 2191845x + 5609606$	$[0, 1, 1, 1]$	$x - 1$	0	0.1625	0.2897

41	$-12625159x^2 + 13065177x - 2631863$	$[2, 4, -1, 1]$	$x^2 - 3x + 2$	2	0.1773	0.3501
42	$-9000715x^2 - 12625159x + 14817004$	$[1, 4, -1, 2]$	$1/3x^2 - 1$	1	0.1840	0.3856
43	$21625874x^2 - 440018x - 12185141$	$[0, -1, -1, 1]$	$1 - x$	0	0.09375	0.1235
44	$52692481x^2 - 41827394x + 1320054$	$[1, -4, -1, 1]$	$x^2 - 2x$	1	0.5247	0.8557
45	$-21185856x^2 - 53132499x + 52692481$	$[1, -3, 1, 1]$	$-1/3x$	1	0.1353	0.2899
46	$74318355x^2 - 42267412x - 10865087$	$[1, 1, 0, 1]$	$1 - x$	1	0.06331	0.08514
47	$-106369298x^2 - 212089978x + 222955065$	$[1, 4, -1, 1]$	$-x$	1	0.4335	0.9245
48	$-32050943x^2 - 254357390x + 212089978$	$[0, 1, 1, 1]$	$1/3x^2 - 2/3x$	0	0.1773	0.3034
49	$-318459276x^2 + 115937149x + 96152829$	$[1, -4, 0, 1]$	$x$	-1	0.2115	0.2588
50	$-286408333x^2 + 370294539x - 115937149$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x$	0	0.08987	0.1524
51	$-202522127x^2 - 975162148x + 859224999$	$[1, 3, 0, 1]$	$x$	-1	0.4742	0.8628
52	$-1093798069x^2 - 118635921x + 723503530$	$[1, 2, 1, 1]$	$1/3x^2 + 1/3x - 1$	-1	0.3302	0.4785
53	$-1177684275x^2 + 1226820766x - 251658618$	$[1, -1, 1, 1]$	$1/3x^2 - x + 1$	-1	0.1795	0.3524
54	$-2390118265x^2 - 1212433990x + 2306232059$	$[1, 2, 0, 1]$	$1/3x^2 + 1/3x$	-1	0.3042	0.6658
55	$1261570481x^2 - 2572277453x + 1226820766$	$[1, -2, 0, 1]$	$-x^2 + 3x - 1$	-1	0.2480	0.3640
56	$3651688746x^2 - 1359843463x - 1079411293$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.2104	0.2580
57	$3602552255x^2 + 3651688746x - 4864122736$	$[1, -2, 0, 1]$	$1/3x^2 - 1$	-1	0.3013	0.6364
58	$7254241001x^2 + 2291845283x - 5943534029$	$[0, 1, 1, 1]$	$x - 1$	0	0.1602	0.2838
59	$13527343691x^2 - 14235617504x + 3000119096$	$[2, 4, -1, 1]$	$x^2 - 3x + 2$	2	0.1828	0.3561
60	$9546086284x^2 + 13527343691x - 15819188974$	$[1, 4, -1, 2]$	$1/3x^2 - 1$	1	0.1822	0.3818
61	$23073429975x^2 - 708273813x - 12819069878$	$[0, 1, 1, 1]$	$x - 1$	0	0.09270	0.1214
62	$-56401220047x^2 + 45706971608x - 2124821439$	$[1, -4, -1, 1]$	$-x^2 + 2x$	-1	0.5222	0.8659
63	$22365156162x^2 + 57109493860x - 56401220047$	$[1, 3, 1, 1]$	$-1/3x$	-1	0.1358	0.2891
64	$79474650022x^2 - 46415245421x - 10694248439$	$[1, -1, 0, 1]$	$x - 1$	-1	0.06288	0.08547
65	$112534054623x^2 + 227729701627x - 238423950066$	$[1, 4, 1, 1]$	$x$	-1	0.4306	0.9194
66	$33059404601x^2 + 274144947048x - 227729701627$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x$	0	0.1789	0.3050
67	$340263756250x^2 - 128551487824x - 99178213803$	$[1, 4, 0, 1]$	$x$	-1	0.2097	0.2575
68	$307204351649x^2 - 402696434872x + 128551487824$	$[0, -1, 1, 1]$	$1/3x^2 - 2/3x$	0	0.09232	0.1555
69	$211712268426x^2 + 1050164542771x - 921613054947$	$[1, 3, 0, 1]$	$x$	-1	0.4777	0.8650
70	$1166384727974x^2 + 116220185203x - 763688293102$	$[1, 2, 1, 1]$	$1/3x^2 + 1/3x - 1$	-1	0.3261	0.4692
71	$1261876811197x^2 - 1336640792440x + 286476249669$	$[1, -1, 1, 1]$	$1/3x^2 - x + 1$	-1	0.1851	0.3585
72	$2544481724374x^2 + 1282604913177x - 2448989641151$	$[1, 2, 0, 1]$	$1/3x^2 + 1/3x$	-1	0.2995	0.6530
73	$-1357368894420x^2 + 2789501770083x - 1336640792440$	$[1, -2, 0, 1]$	$-x^2 + 3x - 1$	-1	0.2533	0.3714
74	$-3901850618794x^2 + 1506896856906x + 1112348848711$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.2087	0.2568
75	$-3827086637551x^2 - 3901850618794x + 5184455531971$	$[1, -2, 0, 1]$	$1/3x^2 - 1$	-1	0.2973	0.6277
76	$-7728937256345x^2 - 2394953761888x + 6296804380682$	$[0, 1, 1, 1]$	$x - 1$	0	0.1580	0.2781
77	$-14495053626465x^2 + 15508441586584x - 3408341722007$	$[2, 4, -1, 1]$	$x^2 - 3x + 2$	2	0.1885	0.3623
78	$-10123891018233x^2 - 14495053626465x + 16890007388353$	$[1, 4, -1, 2]$	$1/3x^2 - 1$	1	0.1804	0.3781
79	$24618944644698x^2 - 1013387960119x - 13481665666346$	$[0, -1, -1, 1]$	$1 - x$	0	0.09167	0.1193
80	$60375168267748x^2 - 49933666481759x + 3040163880357$	$[1, -4, -1, 1]$	$x^2 - 2x$	1	0.5198	0.8766

Number:  $\xi = .4302\dots$  Equation:  $x^3 - 2x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - 2x + 1$	$[1, -2, -1, 1]$	$x^2 - x$	-1	0.1814	0.2721
2	$-3x^2 - x + 1$	$[1, -2, 1, 1]$	$-x^2 + 2x - 1$	-1	0.1326	0.1620
3	$7x^2 - 3x$	$[1, 3, -3, 1]$	$x^2 - 2x + 1$	-1	0.2343	0.2774
4	$-3x^2 - 8x + 4$	$[1, 3, 1, 1]$	$x^2 - x + 1$	-1	0.2311	0.3213
5	$-10x^2 - 5x + 4$	$[0, -1, 1, 1]$	$-x^2 + 2x - 1$	0	0.1172	0.1653
6	$-24x^2 + 8x + 1$	$[1, -3, 0, 1]$	$-x^2 + 2x - 1$	-1	0.2193	0.2440
7	$-9x^2 - 31x + 15$	$[1, 3, -1, 1]$	$-x^2 + x - 1$	-1	0.2761	0.3641
8	$33x^2 + 23x - 16$	$[0, -1, -1, 1]$	$x^2 - 2x + 1$	0	0.1016	0.1749
9	$-82x^2 + 19x + 7$	$[1, 3, 0, 1]$	$x^2 - 2x + 1$	-1	0.2037	0.2162
10	$-108x^2 - 100x + 63$	$[1, -3, 0, 1]$	$-x^2 + x$	-1	0.08663	0.1904
11	$279x^2 - 34x - 37$	$[1, -3, 0, 1]$	$x^2 - 2x + 1$	-1	0.1877	0.1938
12	$350x^2 + 419x - 245$	$[1, -4, 0, 1]$	$-x^2 + x$	-1	0.1038	0.2117
13	$-945x^2 + 2x + 174$	$[1, -3, 0, 1]$	$x^2 - 2x + 1$	-1	0.1714	0.1772
14	$-1121x^2 - 1710x + 943$	$[1, -4, 0, 1]$	$-x^2 + x$	-1	0.1376	0.2386
15	$3185x^2 + 413x - 767$	$[1, -3, 0, 1]$	$x^2 - 2x + 1$	-1	0.1550	0.1666
16	$354x^2 + 6429x - 2831$	$[1, -4, -1, 1]$	$-x^2 + x - 1$	-1	0.4767	0.5706
17	$3539x^2 + 6842x - 3598$	$[0, 1, 1, 1]$	$-x^2 + 2x - 1$	0	0.1753	0.2707
18	$-10676x^2 - 2949x + 3244$	$[1, -3, 0, 1]$	$x^2 - 2x + 1$	1	0.1386	0.1620
19	$295x^2 + 24006x - 10381$	$[1, 3, 1, 1]$	$x^2 - x + 1$	1	0.5291	0.6281
20	$24596x^2 - 11266x + 295$	$[1, -2, -1, 1]$	$x$	1	0.2389	0.2891
21	$-10971x^2 - 26955x + 13625$	$[1, -1, 0, 1]$	$x^2 - x + 1$	1	0.2166	0.3078
22	$-35567x^2 - 15689x + 13330$	$[0, -1, 1, 1]$	$-x^2 + 2x - 1$	0	0.1225	0.1635
23	$-84464x^2 + 30849x + 2359$	$[1, -3, 1, 1]$	$-x^2 + 2x - 1$	1	0.2242	0.2543
24	$-33208x^2 - 104871x + 51256$	$[1, 3, -1, 1]$	$-x^2 + x - 1$	1	0.2610	0.3495
25	$-117672x^2 - 74022x + 53615$	$[0, 1, 1, 1]$	$-x^2 + 2x - 1$	0	0.1067	0.1711
26	$-288959x^2 + 76858x + 20407$	$[1, 3, 0, 1]$	$-x^2 + 2x - 1$	-1	0.2089	0.2247
27	$-386224x^2 - 326937x + 212101$	$[1, 3, 0, 1]$	$-x^2 + x$	-1	0.09148	0.1846
28	$-984549x^2 + 156552x + 114836$	$[1, 3, 0, 1]$	$-x^2 + 2x - 1$	-1	0.1930	0.2005
29	$1255937x^2 + 1384606x - 827997$	$[1, -4, 0, 1]$	$x^2 - x$	-1	0.09358	0.2040
30	$-3339871x^2 + 142719x + 556609$	$[1, 3, 0, 1]$	$x^2 - 2x + 1$	-1	0.1768	0.1820
31	$4039199x^2 + 5694976x - 3197152$	$[1, 4, 0, 1]$	$x^2 - x$	-1	0.1260	0.2291
32	$11275550x^2 + 956449x - 2497824$	$[1, -3, 0, 1]$	$-x^2 + 2x - 1$	-1	0.1604	0.1694
33	$1541375x^2 + 21966174x - 9734175$	$[1, 4, -1, 1]$	$-x^2 + x - 1$	-1	0.4595	0.5521
34	$12816925x^2 + 22922623x - 12231999$	$[0, 1, 1, 1]$	$-x^2 + 2x - 1$	0	0.1625	0.2596
35	$37865849x^2 + 8564323x - 10690624$	$[1, 3, 0, 1]$	$-x^2 + 2x - 1$	1	0.1440	0.1628
36	$2126301x^2 + 82169720x - 35739548$	$[1, 3, -1, 1]$	$-x^2 + x - 1$	1	0.5118	0.6090
37	$86422322x^2 - 42118451x + 2126301$	$[1, 2, -1, 1]$	$x$	1	0.2436	0.3015
38	$39992150x^2 + 90734043x - 46430172$	$[1, 1, 0, 1]$	$-x^2 + x - 1$	1	0.2027	0.2951
39	$126414472x^2 + 48615592x - 44303871$	$[0, 1, 1, 1]$	$-x^2 + 2x - 1$	0	0.1277	0.1623
40	$-297132815x^2 + 117791030x + 4311721$	$[1, -3, -1, 1]$	$x^2 - 2x + 1$	-1	0.2292	0.2652

41	$122102751x^2 + 354371849x - 175030064$	[1, 3, 1, 1]	$x^2 - x + 1$	-1	0.2460	0.3353
42	$419235566x^2 + 236580819x - 179341785$	[0, -1, 1, 1]	$-x^2 + 2x - 1$	0	0.1118	0.1679
43	$1017812917x^2 - 304757498x - 57239034$	[1, -3, 0, 1]	$-x^2 + 2x - 1$	-1	0.2140	0.2339
44	$361996532x^2 + 1368871804x - 655816385$	[1, 3, -1, 1]	$-x^2 + x - 1$	-1	0.2922	0.3797
45	$1379809449x^2 + 1064114306x - 713055419$	[0, 1, 1, 1]	$-x^2 + 2x - 1$	0	0.09641	0.1795
46	$3472674317x^2 - 677691675x - 351058887$	[1, 3, 0, 1]	$-x^2 + 2x - 1$	1	0.1983	0.2079
47	$4501424879x^2 + 4561214722x - 2794982642$	[1, 3, 0, 1]	$-x^2 + x$	1	0.08386	0.1970
48	$11797832400x^2 - 968960719x - 1766232080$	[1, 3, 0, 1]	$-x^2 + 2x - 1$	1	0.1822	0.1875
49	$-14533025199x^2 - 18922550563x + 10828871681$	[1, -4, 0, 1]	$x^2 - x$	1	0.1149	0.2203
50	$39894922079x^2 + 1654332565x - 8093678882$	[1, 3, 0, 1]	$x^2 - 2x + 1$	1	0.1658	0.1729
51	$-6439346317x^2 - 75004830406x + 33455575762$	[1, 4, 1, 1]	$x^2 - x + 1$	1	0.4424	0.5337
52	$46334268396x^2 + 76659162971x - 41549254644$	[0, 1, -1, 1]	$x^2 - 2x + 1$	0	0.1501	0.2490
53	$-134217791436x^2 - 23885548258x + 35109908327$	[1, -3, 0, 1]	$x^2 - 2x + 1$	-1	0.1494	0.1643
54	$-11224360069x^2 - 281096771061x + 122993431367$	[1, -3, -1, 1]	$-x^2 + x - 1$	-1	0.4946	0.5901
55	$303545491199x^2 - 156666511574x + 11224360069$	[1, -2, 1, 1]	$-x$	-1	0.2481	0.3145
56	$-145442151505x^2 - 304982319319x + 158103339694$	[1, 1, 0, 1]	$x^2 - x + 1$	-1	0.1891	0.2829
57	$-448987642704x^2 - 148315807745x + 146878979625$	[0, -1, 1, 1]	$-x^2 + 2x - 1$	0	0.1331	0.1618
58	$1044854265033x^2 - 446113986464x - 1436828120$	[1, 3, -1, 1]	$x^2 - 2x + 1$	-1	0.2340	0.2766
59	$-447550814584x^2 - 1196043729018x + 597303450449$	[1, 3, 1, 1]	$x^2 - x + 1$	-1	0.2314	0.3216
60	$-1492405079617x^2 - 749929742554x + 598740278569$	[0, -1, 1, 1]	$-x^2 + 2x - 1$	0	0.1170	0.1654
61	$-3583550437803x^2 + 1190026151647x + 151189463985$	[1, -3, 0, 1]	$-x^2 + 2x - 1$	-1	0.2191	0.2436
62	$-1341215615632x^2 - 4635859108327x + 2242334822171$	[1, 3, -1, 1]	$-x^2 + x - 1$	-1	0.2768	0.3647
63	$-4924766053435x^2 - 3445832956680x + 2393524286156$	[0, 1, 1, 1]	$-x^2 + 2x - 1$	0	0.1014	0.1750
64	$-12243056393026x^2 + 2820148712387x + 1052308670524$	[1, 3, 0, 1]	$-x^2 + 2x - 1$	1	0.2035	0.2158
65	$-16115513775937x^2 - 14973357978367x + 9422907680639$	[1, 3, 0, 1]	$-x^2 + x$	1	0.08644	0.1906
66	$-41653935232513x^2 + 5014613180481x + 5550450297728$	[1, 3, 0, 1]	$-x^2 + 2x - 1$	1	0.1875	0.1936
67	$52218998710722x^2 + 62713580625855x - 36639322052032$	[1, -4, 0, 1]	$x^2 - x$	1	0.1042	0.2120
68	$-141077319473476x^2 + 70481563076x + 26074258573823$	[1, 3, 0, 1]	$x^2 - 2x + 1$	1	0.1712	0.1771
69	$167222059610375x^2 + 255868935683901x - 141006837910400$	[1, 4, 0, 1]	$x^2 - x$	1	0.1381	0.2389
70	$475450957131150x^2 + 62502135936627x - 114862097773501$	[1, -3, 0, 1]	$-x^2 + 2x - 1$	1	0.1548	0.1665
71	$52359961836874x^2 + 961044088362053x - 423090995294276$	[1, 4, -1, 1]	$-x^2 + x - 1$	1	0.4774	0.5713
72	$527810918968024x^2 + 1023546224298680x - 537953093067777$	[0, 1, 1, 1]	$-x^2 + 2x - 1$	0	0.1758	0.2712
73	$1593574931003825x^2 + 443375343493782x - 485593131230903$	[1, 3, 0, 1]	$-x^2 + 2x - 1$	-1	0.1384	0.1620
74	$42217787737121x^2 + 3588307417764311x - 1551357143266704$	[1, 3, -1, 1]	$-x^2 + x - 1$	-1	0.5297	0.6288
75	$3672742993238553x^2 - 1678010506478067x + 42217787737121$	[1, 2, -1, 1]	$x$	-1	0.2387	0.2886
76	$1635792718740946x^2 + 4031682761258093x - 2036950274497607$	[1, 1, 0, 1]	$-x^2 + x - 1$	-1	0.2171	0.3083
77	$-5308535711979499x^2 - 2353672254780026x + 1994732486760486$	[0, -1, -1, 1]	$x^2 - 2x + 1$	0	0.1222	0.1635
78	$-12611803910719484x^2 + 4590656175940419x + 358939768019540$	[1, -3, -1, 1]	$-x^2 + 2x - 1$	-1	0.2241	0.2539
79	$4949595943959959x^2 + 15683355701538590x - 7662207966759525$	[1, -3, 1, 1]	$x^2 - x + 1$	-1	0.2615	0.3500
80	$17561399854679443x^2 + 11092699525598171x - 8021147734779065$	[0, -1, 1, 1]	$-x^2 + 2x - 1$	0	0.1065	0.1712

Number:  $\xi = .3111\dots$  Equation:  $x^3 - x^2 - 3x + 1 = 0$ . “All” optimal polynomials.

1	$3x^2 - x$	$[0, -1, 3, 1]$	$x^2 - x$	0	0.1867	0.2074
2	$-4x^2 - 2x + 1$	$[1, -2, -4, 1]$	$-1/2x^2 + 1/2$	-1	0.1499	0.1967
3	$5x^2 - 8x + 2$	$[1, 4, 2, 1]$	$-x^2 + 2x$	-1	0.3150	0.4578
4	$-9x^2 + 6x - 1$	$[0, 1, -1, 1]$	$-x^2 + 1$	0	0.3601	0.5246
5	$11x^2 + 3x - 2$	$[1, -2, 0, 1]$	$-1/2x^2 + 1/2$	1	0.2429	0.2690
6	$14x^2 - 14x + 3$	$[1, -1, 0, 1]$	$1/2x^2 - x + 1/2$	1	0.09338	0.1910
7	$-31x^2 + 3$	$[1, -2, 0, 1]$	$-x^2 + 1$	1	0.4135	0.4174
8	$-45x^2 + 14x$	$[0, -1, 1, 1]$	$1/2x^2 - 1/2x$	0	0.09337	0.1024
9	$121x^2 + 62x - 31$	$[2, -4, -5, 1]$	$-x^2 + 1$	2	0.6098	0.8099
10	$-135x^2 + 87x - 14$	$[1, 8, 1, 2]$	$-1/2x^2 + x - 1/2$	1	0.1801	0.2568
11	$-166x^2 - 48x + 31$	$[1, -1, 0, 1]$	$1/2x^2 - 1/2$	1	0.1230	0.1376
12	$-419x^2 + 410x - 87$	$[1, 4, 0, 1]$	$x^2 - 2x + 1$	1	0.3718	0.7439
13	$-467x^2 - 9x + 48$	$[1, 2, 0, 1]$	$1/2x^2 - 1/2$	1	0.2086	0.2109
14	$-681x^2 - 476x + 214$	$[1, -1, 2, 1]$	$1/2x^2 - 1/2$	1	0.2003	0.3180
15	$-672x^2 + 868x - 205$	$[1, 2, -1, 1]$	$x^2 - 2x$	1	0.1710	0.2830
16	$-1353x^2 + 392x + 9$	$[0, 1, 1, 1]$	$x^2 - 1$	0	0.3753	0.4068
17	$-1829x^2 - 961x + 476$	$[1, 2, 0, 1]$	$1/2x^2 - 1/2$	-1	0.3097	0.4162
18	$-2025x^2 + 1260x - 196$	$[1, 1, 0, 1]$	$1/2x^2 - x + 1/2$	-1	0.09008	0.1258
19	$-5011x^2 - 1530x + 961$	$[1, 2, 0, 1]$	$x^2 - 1$	-1	0.4982	0.5630
20	$6271x^2 - 6001x + 1260$	$[1, -4, 0, 1]$	$-1/2x^2 + x - 1/2$	-1	0.1851	0.3622
21	$-7036x^2 - 270x + 765$	$[1, 1, 0, 1]$	$-1/2x^2 + 1/2$	-1	0.1053	0.1067
22	$-270x^2 - 20073x + 6271$	$[1, 3, 2, 1]$	$x - 1$	-1	0.5902	0.6479
23	$20343x^2 - 5461x - 270$	$[1, -2, 0, 1]$	$-x$	-1	0.1886	0.2022
24	$-27649x^2 - 14882x + 7306$	$[1, 1, -1, 1]$	$-1/2x^2 + 1/2$	-1	0.1573	0.2139
25	$33110x^2 - 51338x + 12767$	$[1, 3, 1, 1]$	$-x^2 + 2x$	-1	0.2850	0.4211
26	$60759x^2 - 36456x + 5461$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3605	0.4932
27	$75641x^2 + 24303x - 14882$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2$	-1	0.2523	0.2882
28	$93869x^2 - 87794x + 18228$	$[1, 1, 0, 1]$	$1/2x^2 - x + 1/2$	-1	0.09221	0.1764
29	$212041x^2 + 12150x - 24303$	$[1, 2, 0, 1]$	$x^2 - 1$	-1	0.4250	0.4320
30	$6075x^2 + 299835x - 93869$	$[1, -3, 1, 1]$	$1/2x - 1/2$	-1	0.2927	0.3215
31	$305910x^2 - 75644x - 6075$	$[1, 1, 0, 1]$	$x$	-1	0.09479	0.1006
32	$836011x^2 + 460532x - 224191$	$[1, 2, 2, 1]$	$x^2 - 1$	-1	0.6394	0.8795
33	$-911655x^2 + 526767x - 75644$	$[1, -3, 0, 1]$	$-1/2x^2 + x - 1/2$	-1	0.1804	0.2419
34	$1141921x^2 + 384888x - 230266$	$[1, 1, 0, 1]$	$-1/2x^2 + 1/2$	-1	0.1278	0.1476
35	$-2810609x^2 + 2567600x - 526767$	$[1, 4, 0, 1]$	$-x^2 + 2x - 1$	-1	0.3675	0.6872
36	$-3195497x^2 - 243009x + 384888$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2$	-1	0.2146	0.2189
37	$4722306x^2 + 3438506x - 1526809$	$[1, 1, -2, 1]$	$-1/2x^2 + 1/2$	-1	0.2116	0.3459
38	$-4479297x^2 + 5520088x - 1283800$	$[1, 2, 1, 1]$	$-x^2 + 2x$	-1	0.1519	0.2602
39	$-9201603x^2 + 2081582x + 243009$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3813	0.4011
40	$-12640109x^2 - 7120021x + 3438506$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2$	-1	0.3249	0.4521

41	$-13680900x^2 + 7601670x - 1040791$	[1, 1, 0, 1]	$1/2x^2 - x + 1/2$	-1	0.09032	0.1187
42	$-34481821x^2 - 12158460x + 7120021$	[1, 2, 0, 1]	$x^2 - 1$	-1	0.5182	0.6048
43	$42083491x^2 - 37526701x + 7601670$	[1, -4, 0, 1]	$-1/2x^2 + x - 1/2$	-1	0.1832	0.3348
44	$-48162721x^2 - 4556790x + 6079230$	[1, 1, 0, 1]	$-1/2x^2 + 1/2$	-1	0.1083	0.1110
45	$-4556790x^2 - 133852143x + 42083491$	[1, 3, 2, 1]	$x - 1$	-1	0.5765	0.6341
46	$138408933x^2 - 28413121x - 4556790$	[1, -2, 0, 1]	$-x$	-1	0.1918	0.2001
47	$-191128444x^2 - 109995812x + 52719511$	[1, 1, -1, 1]	$-1/2x^2 + 1/2$	-1	0.1651	0.2324
48	$219541565x^2 - 329087318x + 81132632$	[1, 3, 1, 1]	$-x^2 + 2x$	-1	0.2572	0.3874
49	$410670009x^2 - 219091506x + 28413121$	[0, -1, 1, 1]	$x^2 - 1$	0	0.3618	0.4665
50	$520665821x^2 + 191578503x - 109995812$	[1, -2, 0, 1]	$1/2x^2 - 1/2$	-1	0.2627	0.3099
51	$630211574x^2 - 548178824x + 109545753$	[1, 1, 0, 1]	$1/2x^2 - x + 1/2$	-1	0.09131	0.1632
52	$1452001651x^2 + 164065500x - 191578503$	[1, 2, 0, 1]	$x^2 - 1$	-1	0.4378	0.4510
53	$82032750x^2 + 2000180475x - 630211574$	[1, -3, 1, 1]	$1/2x - 1/2$	-1	0.2861	0.3150
54	$2082213225x^2 - 384113324x - 82032750$	[1, 1, 0, 1]	$x$	-1	0.09647	0.09991
55	$5780493601x^2 + 3396199802x - 1616067151$	[1, 2, 2, 1]	$x^2 - 1$	-1	0.6715	0.9558
56	$-6164606925x^2 + 3152520447x - 384113324$	[1, -3, 0, 1]	$-1/2x^2 + x - 1/2$	-1	0.1812	0.2293
57	$7862706826x^2 + 3012086478x - 1698099901$	[1, 1, 0, 1]	$-1/2x^2 + 1/2$	-1	0.1331	0.1589
58	$-18877934099x^2 + 16006281590x - 3152520447$	[1, 4, 0, 1]	$-x^2 + 2x - 1$	-1	0.3642	0.6363
59	$-21890020577x^2 - 2871652509x + 3012086478$	[1, -2, 0, 1]	$1/2x^2 - 1/2$	-1	0.2212	0.2292
60	$32764813881x^2 + 24761673086x - 10874793304$	[1, 1, -2, 1]	$-1/2x^2 + 1/2$	-1	0.2238	0.3762
61	$-29893161372x^2 + 35024649658x - 8003140795$	[1, 2, 1, 1]	$-x^2 + 2x$	-1	0.1344	0.2392
62	$-62657975253x^2 + 10262976572x + 2871652509$	[0, -1, 1, 1]	$x^2 - 1$	0	0.3884	0.3996
63	$-87419648339x^2 - 52394998681x + 24761673086$	[1, -2, 0, 1]	$1/2x^2 - 1/2$	-1	0.3414	0.4914
64	$-92551136625x^2 + 45287626230x - 5131488286$	[1, 1, 0, 1]	$1/2x^2 - x + 1/2$	-1	0.09080	0.1128
65	$-237497271931x^2 - 94527020790x + 52394998681$	[1, 2, 0, 1]	$x^2 - 1$	-1	0.5401	0.6519
66	$282784898161x^2 - 233545503601x + 45287626230$	[1, -4, 0, 1]	$-1/2x^2 + x - 1/2$	-1	0.1817	0.3103
67	$-330048408556x^2 - 49239394560x + 47263510395$	[1, 1, 0, 1]	$-1/2x^2 + 1/2$	-1	0.1118	0.1165
68	$-49239394560x^2 - 893642320713x + 282784898161$	[1, 3, 2, 1]	$x - 1$	-1	0.5645	0.6227
69	$942881715273x^2 - 135066714481x - 49239394560$	[1, -2, 0, 1]	$-x$	-1	0.1955	0.2000
70	$-1322169518389x^2 - 807815000792x + 379287803116$	[1, 1, -1, 1]	$-1/2x^2 + 1/2$	-1	0.1736	0.2527
71	$1457236232870x^2 - 2106657464948x + 514354517597$	[1, 3, 1, 1]	$-x^2 + 2x$	-1	0.2316	0.3562
72	$2779405751259x^2 - 1298842464156x + 135066714481$	[0, -1, 1, 1]	$x^2 - 1$	0	0.3641	0.4444
73	$3587220752051x^2 + 1480563287103x - 807815000792$	[1, -2, 0, 1]	$1/2x^2 - 1/2$	-1	0.2739	0.3344
74	$4236641984129x^2 - 3405499929104x + 649421232078$	[1, 1, 0, 1]	$1/2x^2 - x + 1/2$	-1	0.09065	0.1513
75	$9953847255361x^2 + 1662284110050x - 1480563287103$	[1, 2, 0, 1]	$x^2 - 1$	-1	0.4519	0.4745
76	$831142055025x^2 + 13359347184465x - 4236641984129$	[1, -3, 1, 1]	$1/2x - 1/2$	-1	0.2804	0.3097
77	$14190489239490x^2 - 1743215819054x - 831142055025$	[1, 1, 0, 1]	$x$	-1	0.09843	0.1003
78	$39997109844391x^2 + 24894546840872x - 11616131365411$	[1, 2, 2, 1]	$x^2 - 1$	-1	0.7063	1.039
79	$-41740325663445x^2 + 18588994641627x - 1743215819054$	[1, -3, 0, 1]	$-1/2x^2 + x - 1/2$	-1	0.1825	0.2190
80	$54187599083881x^2 + 23151331021818x - 12447273420436$	[1, 1, 0, 1]	$-1/2x^2 + 1/2$	-1	0.1389	0.1716

Number:  $\xi = .7152\dots$  Equation:  $x^3 - x^2 + 3x - 2 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-1/2 x^2 + 1/2 x - 1/2$	0	0.2037	0.4074
2	$-2x^2 + 1$	[1, 0, -2, 1]	$1/2 x^2 + 1/2 x - 1/2$	-1	0.09238	0.1155
3	$-5x^2 - 2x + 4$	[1, 2, 4, 1]	$-x^2$	-1	0.2953	0.5316
4	$7x^2 - 5x$	[1, -8, 2, 1]	$1/2 x^2 - 1/2 x + 1/2$	-1	0.2305	0.3481
5	$-12x^2 - 4x + 9$	[1, 2, 0, 1]	$1/2 x^2 + 1/2 x - 1/2$	-1	0.07680	0.1285
6	$29x^2 + 24x - 32$	[1, -2, -4, 1]	$x^2$	-1	0.2794	0.6660
7	$41x^2 + 28x - 41$	[0, -1, 1, 1]	$-3/4 x^2 + 1/4 x - 3/4$	0	0.4379	1.080
8	$45x^2 - 21x - 8$	[1, -8, -2, 1]	$-1/7 x^2 + 2/7 x + 2/7$	-1	0.2200	0.2748
9	$49x^2 - 70x + 25$	[0, -1, 2, 1]	$-1/2 x^2 + 1/2 x - 1/2$	0	0.2119	0.3428
10	$70x^2 + 52x - 73$	[1, 1, 0, 1]	$1 - x$	-1	0.06564	0.1593
11	$213x^2 - 109x - 31$	[1, 2, 1, 1]	$-x^2 + x - 1$	-1	0.4450	0.5710
12	$-161x^2 - 226x + 244$	[1, -3, 0, 1]	$1/2 x - 1$	-1	0.3751	0.8603
13	$283x^2 - 57x - 104$	[1, 1, 0, 1]	$1/2 x^2 - 1/2 x + 1/2$	-1	0.2009	0.2362
14	$335x^2 - 392x + 109$	[1, 1, 1, 1]	$-1/2 x^2 + 1/2 x - 1/2$	-1	0.1535	0.2775
15	$-392x^2 - 504x + 561$	[1, -2, 1, 1]	$x - 1$	-1	0.08952	0.2055
16	$1345x^2 - 337x - 447$	[1, 2, -1, 1]	$x^2 - x + 1$	-1	0.4098	0.4808
17	$1737x^2 + 167x - 1008$	[0, -1, 1, 1]	$-1/2 x^2$	0	0.1748	0.2353
18	$2241x^2 - 2074x + 337$	[1, 2, 2, 1]	$-1/2 x^2 + 1/2 x - 1/2$	-1	0.1159	0.2177
19	$2074x^2 + 4312x - 4145$	[1, 3, -2, 1]	$1 - x$	-1	0.1221	0.2633
20	$8293x^2 + 331x - 4479$	[1, 2, 1, 1]	$-x^2 + x - 1$	-1	0.3598	0.4653
21	$10367x^2 + 4643x - 8624$	[0, 1, 1, 1]	$-1/2 x^2$	0	0.1438	0.2722
22	$14679x^2 - 10036x - 331$	[1, -2, 2, 1]	$-1/2 x^2 + 1/2 x - 1/2$	1	0.1148	0.1685
23	$10036x^2 + 34332x - 29689$	[1, 3, -2, 1]	$1 - x$	1	0.1788	0.3278
24	$49761x^2 + 18903x - 38975$	[1, 2, 1, 1]	$-x^2 + x - 1$	1	0.2992	0.5258
25	$44368x^2 - 59797x + 20072$	[1, -2, 1, 1]	$-1/2 x^2 + 1/2 x - 1$	1	0.3880	0.6453
26	$59797x^2 + 53235x - 68664$	[1, 1, 0, 1]	$1 - x$	1	0.1457	0.3438
27	$94129x^2 - 40894x - 18903$	[1, 1, 0, 1]	$-1/2 x^2 + 1/2 x - 1/2$	1	0.1090	0.1340
28	$248055x^2 - 28553x - 106470$	[0, 1, 2, 1]	$-x^2$	0	0.3873	0.4637
29	$-40894x^2 - 260396x + 207161$	[1, -3, 1, 1]	$1/4 x^2 + 1/4 x + 1/4$	-1	0.2376	0.3938
30	$-288949x^2 - 231843x + 313631$	[0, -1, 1, 1]	$-x^2 + x - 1$	0	0.2744	0.6574
31	$301290x^2 - 329843x + 81788$	[1, 1, 1, 1]	$1/2 x^2 - 1/2 x + 1$	-1	0.2726	0.5169
32	$-329843x^2 - 492239x + 520792$	[1, 1, 0, 1]	$x - 1$	-1	0.1936	0.4441
33	$-590239x^2 + 98000x + 231843$	[1, -1, 0, 1]	$-1/2 x^2 + 1/2 x - 1/2$	-1	0.09899	0.1170
34	$-1510321x^2 - 296239x + 984478$	[0, 1, 2, 1]	$-x^2$	0	0.3316	0.4852
35	$-98000x^2 - 1904560x + 1412321$	[1, 3, -1, 1]	$-1/4 x^2 - 1/4 x - 1/4$	1	0.2935	0.4557
36	$-2002560x^2 + 1706321x - 196000$	[1, 1, -1, 1]	$x$	1	0.2321	0.4028
37	$-3610881x^2 - 494478x + 2200799$	[1, 1, 1, 1]	$-1/2 x^2 - 1/2 x + 1/2$	1	0.08556	0.1189
38	$-8928083x^2 - 5094315x + 8210718$	[1, -1, 3, 1]	$-x^2$	1	0.2676	0.5810
39	$-12538964x^2 - 5588793x + 10411517$	[0, 1, 1, 1]	$-3/4 x^2 + 1/4 x - 3/4$	0	0.5039	0.9515
40	$-13033442x^2 + 7939127x + 988956$	[1, 8, -2, 1]	$-1/7 x^2 + 2/7 x + 2/7$	-1	0.2270	0.3126



41	$-21467047x^2 - 10683108x + 18622235$	$[1, 1, 0, 1]$	$-1/2x^2 - 1/2x + 1/2$	-1	0.06984	0.1397
42	$61556329x^2 - 40190113x - 2743981$	$[2, -5, -1, 1]$	$x^2 - x + 1$	-2	0.4573	0.6531
43	$-50873221x^2 - 53516371x + 64300310$	$[1, 7, 1, 2]$	$1/2x - 1$	-1	0.3205	0.7432
44	$-72340268x^2 - 64199479x + 82922545$	$[1, 0, 1, 1]$	$-3/4x^2 + 1/4x - 3/4$	-1	0.5090	1.201
45	$83023376x^2 - 29507005x - 21366216$	$[1, 1, -1, 1]$	$1/7x^2 - 2/7x - 2/7$	-1	0.2128	0.2537
46	$93706484x^2 - 123213489x + 40190113$	$[0, 1, 2, 1]$	$-1/2x^2 + 1/2x - 1/2$	0	0.1866	0.3143
47	$-123213489x^2 - 117715850x + 147222855$	$[1, 1, 0, 1]$	$x - 1$	1	0.07586	0.1775
48	$393649833x^2 - 158218133x - 88208845$	$[1, 2, -1, 1]$	$x^2 - x + 1$	1	0.4319	0.5233
49	$-275933983x^2 - 476361039x + 481858678$	$[1, 3, 0, 1]$	$1/2x - 1$	1	0.4157	0.9583
50	$-516863322x^2 + 40502283x + 235431700$	$[1, -1, 0, 1]$	$-1/2x^2 + 1/2x - 1/2$	1	0.1904	0.2311
51	$634579172x^2 - 675081455x + 158218133$	$[1, 1, -1, 1]$	$1/2x^2 - 1/2x + 1/2$	1	0.1293	0.2507
52	$-675081455x^2 - 1070437928x + 1110940211$	$[1, 2, 1, 1]$	$x - 1$	1	0.09975	0.2292
53	$-2461103121x^2 + 320227265x + 1029935645$	$[1, -2, 1, 1]$	$-x^2 + x - 1$	1	0.3899	0.4647
54	$-3136184576x^2 - 750210663x + 2140875856$	$[0, 1, 1, 1]$	$-1/2x^2$	0	0.1619	0.2466
55	$4206622504x^2 - 3456411841x + 320227265$	$[1, 2, -2, 1]$	$1/2x^2 - 1/2x + 1/2$	-1	0.1160	0.1950
56	$-3456411841x^2 - 8843228406x + 8093017743$	$[1, 3, 2, 1]$	$x - 1$	-1	0.1460	0.2905
57	$-15005841425x^2 - 2680615387x + 9593439069$	$[1, -2, 1, 1]$	$-x^2 + x - 1$	-1	0.3347	0.4822
58	$18462253266x^2 + 11523843793x - 17686456812$	$[0, -1, -1, 1]$	$1/2x^2$	0	0.1296	0.2990
59	$27305481672x^2 - 15781637879x - 2680615387$	$[1, 2, -2, 1]$	$-1/2x^2 + 1/2x - 1/2$	-1	0.1129	0.1517
60	$-15781637879x^2 - 68815422524x + 57291578731$	$[1, -3, 2, 1]$	$x - 1$	-1	0.2041	0.3564
61	$88854854489x^2 + 48775990559x - 80339266317$	$[1, 2, -1, 1]$	$x^2 - x + 1$	-1	0.2710	0.5743
62	$84597060403x^2 - 104636492368x + 31563275758$	$[1, 2, 1, 1]$	$-1/2x^2 + 1/2x - 1$	-1	0.3376	0.5889
63	$-104636492368x^2 - 117591413083x + 137630845048$	$[1, -1, 0, 1]$	$x - 1$	-1	0.1663	0.3839
64	$173451914892x^2 - 55860501809x - 48775990559$	$[1, 1, 0, 1]$	$1/2x^2 - 1/2x + 1/2$	-1	0.1052	0.1244
65	$451540322152x^2 + 5870409465x - 235182826166$	$[0, -1, 2, 1]$	$-x^2$	0	0.3646	0.4636
66	$-55860501809x^2 - 513271233426x + 395679820343$	$[1, 3, 1, 1]$	$1/4x^2 + 1/4x + 1/4$	-1	0.2623	0.4213
67	$569131735235x^2 - 563261325770x + 111721003618$	$[1, 1, 1, 1]$	$-x$	-1	0.2306	0.4654
68	$563261325770x^2 + 1032412876317x - 1026542466852$	$[1, -2, 0, 1]$	$1 - x$	-1	0.2161	0.4941
69	$1076532559196x^2 - 44119682879x - 519141642891$	$[1, 1, 1, 1]$	$-1/2x^2 + 1/2x - 1/2$	-1	0.09357	0.1155
70	$2716326444162x^2 + 944173510559x - 2064825752634$	$[0, 1, 2, 1]$	$-x^2$	0	0.3047	0.5176
71	$-44119682879x^2 - 3704619637600x + 2672206761283$	$[1, -3, 1, 1]$	$1/4x^2 + 1/4x + 1/4$	1	0.3155	0.4798
72	$3748739320479x^2 - 2804565809920x + 88239365758$	$[1, 1, 1, 1]$	$-x$	1	0.2311	0.3606
73	$6509185447520x^2 + 1844227338239x - 4648793148159$	$[1, -1, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	1	0.07900	0.1256
74	$-15822936704960x^2 - 12041867462237x + 16706825571518$	$[1, 1, -3, 1]$	$x^2$	1	0.2662	0.6433
75	$-22332122152480x^2 - 13886094800476x + 21355618719677$	$[0, -1, 1, 1]$	$-3/4x^2 + 1/4x - 3/4$	0	0.4542	1.045
76	$24176349490719x^2 - 12134482028482x - 3688454676478$	$[1, 8, 2, 1]$	$1/7x^2 - 2/7x - 2/7$	1	0.2220	0.2831
77	$-38155058857440x^2 - 25927962262713x + 38062444291195$	$[1, 1, 0, 1]$	$1/2x^2 + 1/2x - 1/2$	1	0.06269	0.1540
78	$114372562006075x^2 - 62516637480649x - 13793480234231$	$[2, 5, -1, 1]$	$x^2 - x + 1$	2	0.4485	0.5891
79	$88444599743362x^2 + 115938945645579x - 128166042240306$	$[1, -7, -1, 2]$	$1 - 1/2x$	1	0.3618	0.8302
80	$-152527620863515x^2 + 36588675217936x + 51855924525426$	$[1, -1, 0, 1]$	$1/2x^2 - 1/2x + 1/2$	1	0.2040	0.2394

Number:  $\xi = .3611\dots$  Equation:  $x^3 - x^2 + 3x - 1 = 0$ . “All” optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$x^2$	-1	0.06801	0.1530
2	$-5x^2 - x + 1$	$[1, -3, 1, 1]$	$-x^2 + x - 1$	-1	0.3270	0.3532
3	$-7x^2 - 3x + 2$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.1922	0.2432
4	$3x^2 + 10x - 4$	$[1, -6, 2, 1]$	$1/2x^2 + 1/2$	1	0.2217	0.2771
5	$-13x^2 + 13x - 3$	$[1, 2, 2, 1]$	$-x$	1	0.1353	0.2778
6	$-13x^2 - 23x + 10$	$[1, -2, 0, 1]$	$1 - x$	1	0.2706	0.4082
7	$-36x^2 + 13x$	$[1, 2, 1, 1]$	$-1/2x^2 + x - 1/2$	1	0.1353	0.1529
8	$-72x^2 + 62x - 13$	$[1, -1, 2, 1]$	$-x^2 + x - 1$	1	0.4163	0.7386
9	$-85x^2 - 33x + 23$	$[1, 4, -1, 1]$	$-1/3x^2 - 1/3x + 1/3$	1	0.09835	0.1204
10	$-193x^2 + 42x + 10$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	1	0.3901	0.4096
11	$160x^2 + 269x - 118$	$[1, -5, 1, 1]$	$1/3x^2 + 1/3x - 1/3$	1	0.1284	0.1986
12	$-438x^2 - 260x + 151$	$[1, 1, -1, 1]$	$x^2 - x + 1$	1	0.2620	0.3854
13	$-598x^2 - 529x + 269$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.1464	0.2907
14	$169x^2 + 1127x - 429$	$[1, 5, 1, 1]$	$1/2x^2 + 1/2$	1	0.2940	0.3432
15	$-1296x^2 + 936x - 169$	$[1, 2, 2, 1]$	$-x$	1	0.1404	0.2160
16	$-936x^2 - 2783x + 1127$	$[1, -2, 0, 1]$	$1 - x$	1	0.4136	0.5282
17	$-3359x^2 + 216x + 360$	$[1, 2, 1, 1]$	$-1/2x^2 + x - 1/2$	1	0.1230	0.1249
18	$-7078x^2 + 4151x - 576$	$[1, -1, 2, 1]$	$-x^2 + x - 1$	1	0.4200	0.5673
19	$-7294x^2 - 6070x + 3143$	$[1, 4, -1, 1]$	$-1/3x^2 - 1/3x + 1/3$	1	0.07561	0.1420
20	$-17731x^2 - 1703x + 2927$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	1	0.3437	0.3562
21	$-25025x^2 - 7773x + 6070$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.2053	0.2372
22	$11661x^2 + 32798x - 13364$	$[1, -5, 1, 1]$	$1/2x^2 + 1/2$	-1	0.1993	0.2576
23	$36686x^2 + 40571x - 19434$	$[0, -1, 1, 1]$	$-x^2 + x - 1$	0	0.2346	0.4803
24	$-44459x^2 + 48347x - 11661$	$[1, 2, 2, 1]$	$1/3x^2 - 2/3x + 2/3$	-1	0.1564	0.2978
25	$48347x^2 + 73369x - 32798$	$[1, 1, 0, 1]$	$x - 1$	-1	0.2301	0.3760
26	$3888x^2 + 121716x - 44459$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2$	0	0.3580	0.4061
27	$125604x^2 - 56123x + 3888$	$[1, -2, 0, 1]$	$x$	1	0.1377	0.1653
28	$247320x^2 - 233962x + 52235$	$[0, -1, 2, 1]$	$-x^2 + x - 1$	0	0.4106	0.7963
29	$303443x^2 + 82839x - 69481$	$[1, 1, 2, 1]$	$-1/3x^2 - 1/3x + 1/3$	1	0.1048	0.1181
30	$676367x^2 - 207246x - 13358$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	1	0.4004	0.4382
31	$-593528x^2 - 855403x + 386282$	$[1, -5, 1, 1]$	$1/3x^2 + 1/3x - 1/3$	1	0.1086	0.1830
32	$1573338x^2 + 730996x - 469121$	$[1, 1, -1, 1]$	$x^2 - x + 1$	1	0.2825	0.3686
33	$2166866x^2 + 1586399x - 855403$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.1607	0.2719
34	$-717935x^2 - 3753265x + 1448931$	$[1, 5, 1, 1]$	$1/2x^2 + 1/2$	1	0.2725	0.3231
35	$4471200x^2 - 3602736x + 717935$	$[1, 2, 2, 1]$	$-x$	1	0.1397	0.2339
36	$3602736x^2 + 9092929x - 3753265$	$[1, -2, 0, 1]$	$1 - x$	1	0.3690	0.4898
37	$10958737x^2 + 10829857x - 5339664$	$[1, 1, 2, 1]$	$-x^2 + x - 1$	1	0.4123	0.9129
38	$11827201x^2 - 1865808x - 868464$	$[1, -1, 1, 1]$	$-1/6x^2 + 1/3x + 1/6$	1	0.1274	0.1313
39	$24522866x^2 - 16427281x + 2734272$	$[0, -1, 3, 1]$	$-x^2 + x - 1$	0	0.4214	0.6157
40	$26388674x^2 + 18056978x - 9961393$	$[1, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	1	0.08271	0.1332

41	$62738741x^2 - 236111x - 8095585$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	1	0.3597	0.3656
42	$-89127415x^2 - 17820867x + 18056978$	$[0, -1, -1, 1]$	$2/3x^2 - 1/3x + 1/3$	0	0.2177	0.2353
43	$-44681763x^2 - 106948282x + 44445652$	$[1, -5, 1, 1]$	$-1/2x^2 - 1/2$	1	0.1771	0.2387
44	$-133809178x^2 - 124769149x + 62502630$	$[0, 1, 1, 1]$	$-x^2 + x - 1$	0	0.2133	0.4454
45	$151630045x^2 - 178490941x + 44681763$	$[1, -2, 2, 1]$	$1/3x^2 - 2/3x + 2/3$	-1	0.1782	0.3179
46	$-178490941x^2 - 231717431x + 106948282$	$[1, 1, 0, 1]$	$x - 1$	-1	0.1919	0.3466
47	$-26860896x^2 - 410208372x + 151630045$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2$	0	0.3398	0.3877
48	$-437069268x^2 + 232212733x - 26860896$	$[1, -2, 0, 1]$	$x$	1	0.1393	0.1792
49	$-847277640x^2 + 874633838x - 205351837$	$[0, -1, 2, 1]$	$-x^2 + x - 1$	0	0.4292	0.8556
50	$-232212733x^2 - 1052134175x + 410208372$	$[1, 2, 0, 1]$	$-1/3x^2 - 1/3x - 2/3$	1	0.5158	0.6193
51	$-1079490373x^2 - 177500337x + 204856535$	$[0, 1, 1, 1]$	$-1/2x^2 + x - 1/2$	0	0.1108	0.1178
52	$-2363837281x^2 + 929346234x - 27356198$	$[1, 2, 1, 1]$	$-x^2 + x - 1$	-1	0.4088	0.4720
53	$-2186336944x^2 - 2691481757x + 1256990710$	$[1, 4, -1, 1]$	$-1/3x^2 - 1/3x + 1/3$	-1	0.08982	0.1687
54	$-5629664598x^2 - 1939635860x + 1434491047$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	-1	0.3023	0.3578
55	$-7816001542x^2 - 4631117617x + 2691481757$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.1748	0.2568
56	$2938182841x^2 + 12447119159x - 4877818701$	$[1, -5, 1, 1]$	$1/2x^2 + 1/2$	1	0.2505	0.3029
57	$-15385302000x^2 + 13692367224x - 2938182841$	$[1, 2, 2, 1]$	$-x$	1	0.1382	0.2527
58	$-13692367224x^2 - 29525355935x + 12447119159$	$[1, -2, 0, 1]$	$1 - x$	1	0.3252	0.4529
59	$-39831853607x^2 - 32911225487x + 17078236776$	$[1, 1, 2, 1]$	$-x^2 + x - 1$	1	0.4553	0.8498
60	$-41524788383x^2 + 10306497672x + 1692934776$	$[1, -1, 1, 1]$	$-1/6x^2 + 1/3x + 1/6$	1	0.1313	0.1396
61	$-84742511542x^2 + 63830718503x - 11999432448$	$[0, -1, 3, 1]$	$-x^2 + x - 1$	0	0.4206	0.6676
62	$-95049009214x^2 - 52130083750x + 31218290711$	$[1, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	1	0.08968	0.1263
63	$-221316309139x^2 + 22007132425x + 20911793039$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	1	0.3741	0.3811
64	$-316365318353x^2 - 30122951325x + 52130083750$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.2292	0.2375
65	$169186225389x^2 + 346488269678x - 147179092964$	$[1, -5, 1, 1]$	$1/2x^2 + 1/2$	-1	0.1554	0.2205
66	$485551543742x^2 + 376611221003x - 199309176714$	$[0, -1, 1, 1]$	$-x^2 + x - 1$	0	0.2348	0.4156
67	$-515674495067x^2 + 654737769131x - 169186225389$	$[1, 2, 2, 1]$	$1/3x^2 - 2/3x + 2/3$	-1	0.2004	0.3381
68	$654737769131x^2 + 723099490681x - 346488269678$	$[1, 1, 0, 1]$	$x - 1$	-1	0.1562	0.3200
69	$139063274064x^2 + 1377837259812x - 515674495067$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2$	0	0.3204	0.3686
70	$1516900533876x^2 - 932864317259x + 139063274064$	$[1, -2, 0, 1]$	$x$	1	0.1402	0.1945
71	$-2894737793688x^2 + 3243565894330x - 793801043195$	$[0, 1, -2, 1]$	$x^2 - x + 1$	0	0.4933	0.9158
72	$932864317259x^2 + 3478774010305x - 1377837259812$	$[1, 2, 0, 1]$	$1/3x^2 + 1/3x + 2/3$	-1	0.4713	0.5791
73	$3827602110947x^2 + 235208115975x - 584036216617$	$[0, -1, 1, 1]$	$-1/2x^2 + x - 1/2$	0	0.1164	0.1196
74	$8239240438511x^2 - 3941222095614x + 348828100642$	$[1, -2, 1, 1]$	$-x^2 + x - 1$	-1	0.4151	0.5108
75	$8004032322536x^2 + 8360828569819x - 4062810226922$	$[1, 4, -1, 1]$	$-1/3x^2 - 1/3x + 1/3$	-1	0.07244	0.1559
76	$20070874871994x^2 + 4654814590180x - 4298018342897$	$[1, 1, 1, 1]$	$-x^2 + x - 1$	-1	0.3212	0.3532
77	$28074907194530x^2 + 13015643159999x - 8360828569819$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3x - 1/3$	0	0.1885	0.2457
78	$-11710046302175x^2 - 41090550354529x + 16364860892355$	$[1, -5, 1, 1]$	$1/2x^2 + 1/2$	1	0.2282	0.2829
79	$52800596656704x^2 - 51494999798880x + 11710046302175$	$[1, 2, 2, 1]$	$-x$	1	0.1360	0.2721
80	$51494999798880x^2 + 95196743869057x - 41090550354529$	$[1, -2, 0, 1]$	$1 - x$	1	0.2825	0.4178

Number:  $\xi = .3473\dots$  Equation:  $x^3 - 3x + 1 = 0$ . “All” optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$-x^2 - x + 1$	-1	0.2567	0.5776
2	$-3x^2 + x$	$[1, -3, 0, 1]$	$x^2 - x$	-1	0.1309	0.1455
3	$5x^2 + 4x - 2$	$[1, -2, 0, 1]$	$-x^2 - x + 1$	-1	0.1935	0.3483
4	$8x^2 + 3x - 2$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4357	0.5241
5	$-9x^2 + 6x - 1$	$[1, 4, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1421	0.2071
6	$13x^2 + 7x - 4$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1578	0.2185
7	$22x^2 + x - 3$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3974	0.4056
8	$-28x^2 + 27x - 6$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1659	0.3278
9	$35x^2 + 8x - 7$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1380	0.1507
10	$63x^2 - 19x - 1$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3930	0.4289
11	$71x^2 + 79x - 36$	$[1, 2, 3, 1]$	$1/3x^2 + 2/3x + 1/3$	-1	0.3740	0.7537
12	$98x^2 - 11x - 8$	$[1, 1, 0, 1]$	$x^2 - x$	-1	0.1304	0.1330
13	$-177x^2 - 166x + 79$	$[1, -2, -1, 1]$	$-x^2 - x + 1$	-1	0.2264	0.4707
14	$-275x^2 - 155x + 87$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4806	0.6814
15	$286x^2 - 131x + 11$	$[1, 4, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1340	0.1623
16	$-452x^2 - 321x + 166$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1781	0.2919
17	$-738x^2 - 190x + 155$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4175	0.4636
18	$869x^2 - 679x + 131$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1492	0.2437
19	$-1190x^2 - 511x + 321$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1489	0.1872
20	$-2059x^2 + 168x + 190$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3920	0.3979
21	$679x^2 - 2738x + 869$	$[1, 3, 1, 1]$	$-1/3x^2 + 1/3x + 2/3$	-1	0.5145	0.5979
22	$-2738x^2 + 2906x - 679$	$[0, 1, -1, 1]$	$x$	0	0.2013	0.3909
23	$-3249x^2 - 343x + 511$	$[1, 1, 0, 1]$	$x^2 + x - 1$	1	0.1339	0.1387
24	$-5987x^2 + 2563x - 168$	$[0, 1, 1, 1]$	$x^2 - 1$	0	0.3997	0.4733
25	$-6330x^2 - 6673x + 3081$	$[1, -1, 3, 1]$	$1/3x^2 + 2/3x + 1/3$	-1	0.3005	0.6349
26	$-9236x^2 + 2220x + 343$	$[1, 1, 0, 1]$	$x^2 - x$	-1	0.1305	0.1382
27	$15909x^2 + 13689x - 6673$	$[1, -2, -1, 1]$	$-x^2 - x + 1$	-1	0.2060	0.3947
28	$25145x^2 + 11469x - 7016$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4525	0.5819
29	$-27365x^2 + 15896x - 2220$	$[1, 4, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1382	0.1857
30	$41054x^2 + 25158x - 13689$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1655	0.2460
31	$68419x^2 + 9262x - 11469$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4041	0.4229
32	$-84315x^2 + 75053x - 15896$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1582	0.2892
33	$109473x^2 + 34420x - 25158$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1419	0.1634
34	$193788x^2 - 40633x - 9262$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3910	0.4091
35	$228208x^2 + 262628x - 118735$	$[1, 2, 3, 1]$	$1/3x^2 + 2/3x + 1/3$	-1	0.4345	0.8514
36	$303261x^2 - 6213x - 34420$	$[1, 1, 0, 1]$	$x^2 - x$	-1	0.1313	0.1331
37	$-565889x^2 - 559676x + 262628$	$[1, -2, -1, 1]$	$-x^2 - x + 1$	-1	0.2433	0.5338
38	$-869150x^2 - 553463x + 297048$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.5048	0.7684
39	$875363x^2 - 321900x + 6213$	$[1, 4, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1320	0.1498
40	$-1435039x^2 - 1113139x + 559676$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1887	0.3310

41	$-2310402x^2 - 791239x + 553463$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4302	0.5054
42	$2632302x^2 - 1841063x + 321900$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1440	0.2165
43	$-3745441x^2 - 1904378x + 1113139$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1551	0.2089
44	$-6377743x^2 - 63315x + 791239$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3954	0.4015
45	$8218806x^2 - 8155491x + 1841063$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1693	0.3444
46	$-10123184x^2 - 1967693x + 1904378$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1366	0.1466
47	$-18341990x^2 + 6187798x + 63315$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3945	0.4394
48	$-20309683x^2 - 22277376x + 10186499$	$[1, 2, 3, 1]$	$1/3x^2 + 2/3x + 1/3$	-1	0.3521	0.7183
49	$-28465174x^2 + 4220105x + 1967693$	$[1, 1, 0, 1]$	$x^2 - x$	-1	0.1303	0.1338
50	$50742550x^2 + 46522445x - 22277376$	$[1, -2, -1, 1]$	$-x^2 - x + 1$	-1	0.2203	0.4480
51	$79207724x^2 + 42302340x - 24245069$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4721	0.6510
52	$-83427829x^2 + 41125489x - 4220105$	$[1, 4, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1350	0.1682
53	$129950274x^2 + 88824785x - 46522445$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1743	0.2781
54	$213378103x^2 + 47699296x - 42302340$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4132	0.4501
55	$-254503592x^2 + 206804296x - 41125489$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1515	0.2556
56	$343328377x^2 + 136524081x - 88824785$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1467	0.1798
57	$597831969x^2 - 70280215x - 47699296$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3913	0.3992
58	$-206804296x^2 + 804636265x - 254503592$	$[1, 3, 1, 1]$	$-1/3x^2 + 1/3x + 2/3$	-1	0.5261	0.6135
59	$734356050x^2 + 870880131x - 391027673$	$[1, 1, 1, 1]$	$x^2 + 2x$	-1	0.5024	0.9609
60	$804636265x^2 - 874916480x + 206804296$	$[1, -1, 0, 1]$	$x^2 - 2x + 1$	-1	0.2160	0.4108
61	$-941160346x^2 - 66243866x + 136524081$	$[1, -1, 0, 1]$	$-x^2 - x + 1$	-1	0.1330	0.1365
62	$-1745796611x^2 + 808672614x - 70280215$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4024	0.4894
63	$1812040477x^2 + 1878284343x - 870880131$	$[1, -1, -2, 1]$	$-1/3x^2 - 2/3x - 1/3$	-1	0.2819	0.6048
64	$-2686956957x^2 + 742428748x + 66243866$	$[1, 1, 0, 1]$	$-x^2 + x$	-1	0.1308	0.1408
65	$4565241300x^2 + 3822812552x - 1878284343$	$[1, 2, -1, 1]$	$-x^2 - x + 1$	-1	0.2008	0.3757
66	$7252198257x^2 + 3080383804x - 1944528209$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4457	0.5581
67	$7994627005x^2 - 4914243201x + 742428748$	$[1, -4, -1, 1]$	$1/3x^2 - 1/3x + 1/3$	-1	0.1396	0.1936
68	$11817439557x^2 + 6903196356x - 3822812552$	$[1, 1, 0, 1]$	$x^2 + x - 1$	-1	0.1623	0.2347
69	$19812066562x^2 + 1988953155x - 3080383804$	$[0, 1, 1, 1]$	$x^2 - 1$	0	0.4012	0.4149
70	$-24726309763x^2 + 22737356608x - 4914243201$	$[1, -4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	1	0.1611	0.3037
71	$31629506119x^2 + 8892149511x - 6903196356$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	1	0.1402	0.1580
72	$56355815882x^2 - 13845207097x - 1988953155$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.3915	0.4157
73	$65247965393x^2 + 74140114904x - 33618459274$	$[1, 2, 3, 1]$	$1/3x^2 + 2/3x + 1/3$	1	0.4100	0.8119
74	$87985322001x^2 - 4953057586x - 8892149511$	$[1, 1, 0, 1]$	$x^2 - x$	1	0.1309	0.1327
75	$-162125436905x^2 - 157172379319x + 74140114904$	$[1, -2, -1, 1]$	$-x^2 - x + 1$	1	0.2365	0.5082
76	$-250110758906x^2 - 152219321733x + 83032264415$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4949	0.7328
77	$255063816492x^2 - 102844494759x + 4953057586$	$[1, 4, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	1	0.1327	0.1543
78	$-412236195811x^2 - 309391701052x + 157172379319$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	1	0.1844	0.3151
79	$-667300012303x^2 - 206547206293x + 152219321733$	$[0, -1, 1, 1]$	$x^2 - 1$	0	0.4249	0.4878
80	$770144507062x^2 - 563597300769x + 102844494759$	$[1, 4, 0, 1]$	$-1/3x^2 + 1/3x - 1/3$	1	0.1459	0.2266

Number:  $\xi = .5961\dots$  Equation:  $x^3 + 3x - 2 = 0$ . “All” optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1/4 x^2 + 1/2 x - 1/4$	-1	0.04863	0.1459
2	$-4x^2 - x + 2$	$[1, -2, 2, 1]$	$-x^2$	-1	0.2764	0.3628
3	$-5x^2 + 3x$	$[1, -6, 3, 1]$	$-1/2 x^2 - 1/2$	-1	0.2927	0.3981
4	$-4x^2 - 6x + 5$	$[1, 2, -1, 1]$	$1/2 - 1/2 x$	-1	0.08512	0.1821
5	$-17x^2 - 10x + 12$	$[1, 1, 2, 1]$	$-x^2$	-1	0.2428	0.4478
6	$-23x^2 + 7x + 4$	$[1, -4, 2, 1]$	$-1/2 x^2 - 1/2$	-1	0.3012	0.3382
7	$25x^2 - 30x + 9$	$[1, 1, -2, 1]$	$1/2 x^2 + 1/2$	-1	0.3472	0.6196
8	$-15x^2 - 33x + 25$	$[1, 1, 1, 1]$	$1/2 x$	-1	0.1252	0.2230
9	$-70x^2 - 69x + 66$	$[0, -1, 3, 1]$	$-x^2$	0	0.2002	0.5726
10	$-103x^2 + x + 36$	$[1, -2, 2, 1]$	$-1/2 x^2 - 1/2$	-1	0.2937	0.3296
11	$121x^2 - 104x + 19$	$[1, 1, -2, 1]$	$1/2 x^2 + 1/2$	-1	0.2747	0.4844
12	$-52x^2 - 172x + 121$	$[1, 1, 1, 1]$	$1/2 x$	-1	0.1654	0.2624
13	$-172x^2 + 277x - 104$	$[1, -1, -1, 1]$	$x$	-1	0.2557	0.3904
14	$277x^2 + 412x - 344$	$[1, -3, 0, 1]$	$x$	-1	0.3372	0.7247
15	$-449x^2 - 135x + 240$	$[0, 1, -1, 1]$	$1/2 x^2 + 1/2$	0	0.2714	0.3735
16	$569x^2 - 314x - 15$	$[1, -2, 1, 1]$	$1/2 x^2 + 1/2$	1	0.2954	0.3855
17	$726x^2 + 547x - 584$	$[1, -1, 0, 1]$	$1 - 1/2 x$	1	0.3375	0.7475
18	$157x^2 + 861x - 569$	$[0, -1, 1, 1]$	$-1/6 x^2 - 1/3 x - 1/6$	0	0.2016	0.2963
19	$-861x^2 + 1040x - 314$	$[1, -2, 1, 1]$	$-x$	1	0.1753	0.3114
20	$1901x^2 + 1229x - 1408$	$[1, 2, -1, 1]$	$x - 1$	1	0.2366	0.4652
21	$-2605x^2 + 672x + 525$	$[1, 1, -1, 1]$	$1/2 x^2 + 1/2$	1	0.3010	0.3333
22	$2941x^2 + 3498x - 3130$	$[1, 2, 0, 1]$	$1/2 x - 1$	1	0.3810	0.9554
23	$4170x^2 - 3613x + 672$	$[1, -2, -1, 1]$	$-1/3 x^2 + 1/3 x - 1/3$	1	0.1370	0.2435
24	$-3834x^2 + 7783x - 3277$	$[1, 1, -1, 1]$	$1/2 x^2 + 1/2$	1	0.3235	0.4593
25	$7783x^2 + 8225x - 7668$	$[1, 3, 2, 1]$	$x$	1	0.2153	0.5953
26	$8004x^2 - 11396x + 3949$	$[1, -1, 0, 1]$	$1/2 x + 1/2$	1	0.3299	0.5323
27	$-11617x^2 - 442x + 4391$	$[1, -1, 0, 1]$	$1/3 x^2 + 2/3 x + 1/3$	1	0.2911	0.3331
28	$19400x^2 + 8667x - 12059$	$[1, 0, -1, 1]$	$1/2 x^2 + 1/2 x$	1	0.3862	0.6125
29	$19621x^2 - 10954x - 442$	$[1, -1, 0, 1]$	$-1/6 x^2 + 1/6 x + 1/3$	1	0.1475	0.1936
30	$19842x^2 - 30575x + 11175$	$[0, -1, 2, 1]$	$-1/2 x^2 - 1/2$	0	0.2428	0.3774
31	$39463x^2 - 41529x + 10733$	$[0, -1, 3, 1]$	$-1/2 x^2 - 1/2 x$	0	0.2130	0.4196
32	$-50417x^2 - 17776x + 28509$	$[1, -2, 0, 1]$	$1/3 x^2 + 2/3 x + 1/3$	-1	0.2666	0.3850
33	$-80992x^2 - 66127x + 68193$	$[1, 0, 2, 1]$	$-1/2 x^2 - 1/2 x$	-1	0.3273	0.7775
34	$89880x^2 - 23753x - 17776$	$[1, -1, 0, 1]$	$1/6 x^2 - 1/6 x - 1/3$	-1	0.1505	0.1669
35	$98768x^2 - 113633x + 32641$	$[0, 1, 2, 1]$	$-1/2 x^2 - 1/2$	0	0.1631	0.2997
36	$188648x^2 - 137386x + 14865$	$[0, 1, 3, 1]$	$-1/2 x^2 - 1/2 x$	0	0.2138	0.3285
37	$-212401x^2 - 150030x + 164895$	$[1, 2, 0, 1]$	$1/3 x^2 + 2/3 x + 1/3$	-1	0.2301	0.4836
38	$-401049x^2 - 12644x + 150030$	$[0, -1, 1, 1]$	$-1/2 x^2$	0	0.1457	0.1663
39	$476064x^2 - 388405x + 62371$	$[1, 2, 0, 1]$	$1/2 x^2 + 1/2$	-1	0.1392	0.2342
40	$877113x^2 - 375761x - 87659$	$[0, -1, 1, 1]$	$-1/2 x^2 - 1/2 x$	0	0.2247	0.2682

41	$-864469x^2 - 977416x + 889757$	[1, 4, 2, 1]	$1/3x^2 + 2/3x + 1/3$	-1	0.2370	0.6187
42	$-1741582x^2 - 601655x + 977416$	[0, -1, 1, 1]	$-1/2x^2$	0	0.1336	0.1917
43	$2230290x^2 - 1139927x - 112947$	[1, 2, 0, 1]	$1/2x^2 + 1/2$	-1	0.1485	0.1877
44	$3971872x^2 - 538272x - 1090363$	[0, -1, 1, 1]	$-1/2x^2 - 1/2x$	0	0.2241	0.2451
45	$-3370217x^2 - 5663890x + 4573527$	[1, 4, 2, 1]	$1/3x^2 + 2/3x + 1/3$	-1	0.3869	0.7762
46	$-7342089x^2 - 5125618x + 5663890$	[0, -1, 1, 1]	$-1/2x^2$	0	0.1155	0.2405
47	$10174034x^2 - 2216471x - 2293673$	[1, 2, 0, 1]	$1/2x^2 + 1/2$	-1	0.1503	0.1651
48	$17516123x^2 + 2909147x - 7957563$	[0, -1, 1, 1]	$-1/2x^2 - 1/2x$	0	0.2119	0.2615
49	$15299652x^2 - 29906628x + 12390505$	[1, 3, 4, 1]	$-1/3x^2 + 1/3x - 1/3$	-1	0.1563	0.2241
50	$29906628x^2 + 33508451x - 30599304$	[1, 2, -1, 1]	$-x$	-1	0.1170	0.3077
51	$45206280x^2 + 3601823x - 18208799$	[0, 1, 1, 1]	$-1/2x^2 - 1/2$	0	0.1443	0.1686
52	$75112908x^2 + 37110274x - 48808103$	[0, 1, 2, 1]	$-1/2x^2 - 1/2x$	0	0.1895	0.3157
53	$78714731x^2 - 116717365x + 41604457$	[1, 4, 0, 1]	$-1/3x^2 + 1/3x - 1/3$	-1	0.1158	0.1832
54	$116717365x^2 + 194539736x - 157429462$	[1, 2, -1, 1]	$-x$	-1	0.1917	0.3863
55	$195432096x^2 + 77822371x - 115825005$	[0, 1, 1, 1]	$-1/2x^2 - 1/2$	0	0.1311	0.1980
56	$312149461x^2 + 272362107x - 273254467$	[0, 1, 2, 1]	$-1/2x^2 - 1/2x$	0	0.1591	0.4022
57	$389971832x^2 - 429759186x + 117609725$	[1, 4, 0, 1]	$-1/3x^2 + 1/3x - 1/3$	-1	0.07634	0.1449
58	$819731018x^2 + 622546585x - 662333939$	[1, 2, 0, 1]	$1 - x$	-1	0.1122	0.2501
59	$1249490204x^2 + 1674852356x - 1442277603$	[0, -1, 2, 1]	$-1/2x^2 - 1/2x$	0	0.2228	0.5120
60	$1872036789x^2 - 1446674637x + 197184433$	[1, 4, 0, 1]	$-1/3x^2 + 1/3x - 1/3$	-1	0.07043	0.1133
61	$3318711426x^2 + 3972251297x - 3546889145$	[1, 2, 0, 1]	$1 - x$	-1	0.1281	0.3196
62	$5418925934x^2 - 8084097489x + 2893349274$	[1, 4, -1, 1]	$-1/2x^2 + 1/2x - 1$	-1	0.4667	0.7361
63	$8737637360x^2 - 4111846192x - 653539871$	[0, 1, 1, 1]	$-1/4x^2 - 1/2x + 1/4$	0	0.07461	0.09156
64	$-12849483552x^2 - 22754605759x + 18128814591$	[2, -5, 0, 1]	$x - 1$	2	0.2044	0.3993
65	$26866451951x^2 - 29810813296x + 8223692384$	[1, 7, 1, 2]	$1/2x^2 - 1/2x + 1$	1	0.3086	0.5827
66	$39715935503x^2 - 7056207537x - 9905122207$	[0, -1, 1, 1]	$-1/4x^2 - 1/2x + 1/4$	0	0.07496	0.08199
67	$-46772143040x^2 - 121996721179x + 89336993213$	[2, 5, 0, 1]	$x - 1$	2	0.2857	0.4809
68	$129052928716x^2 - 100600493617x + 14112415074$	[1, 7, 1, 2]	$1/2x^2 - 1/2x + 1$	1	0.2812	0.4555
69	$175825071756x^2 + 21396227562x - 75224578139$	[0, -1, 1, 1]	$-1/4x^2 - 1/2x + 1/4$	0	0.07144	0.08558
70	$-581303565845x^2 - 315238332581x + 394442598636$	[1, 5, -3, 1]	$x^2 + x$	1	0.7429	1.303
71	$602699793407x^2 - 287461460826x - 42792455124$	[1, 6, 1, 1]	$1/6x^2 - 1/6x - 1/3$	1	0.2983	0.3676
72	$757128637601x^2 + 336634560143x - 469667176775$	[1, -1, 0, 1]	$-1/4x^2 - 1/2x + 1/4$	1	0.06442	0.1019
73	$-2404418529435x^2 - 2236699494805x + 2187526395488$	[1, 2, -4, 1]	$x^2 + x$	1	0.6181	1.665
74	$2741053089578x^2 - 504353594773x - 673269120286$	[1, 6, 1, 1]	$1/6x^2 - 1/6x - 1/3$	1	0.3000	0.3282
75	$3161547167036x^2 + 2573334054948x - 2657193572263$	[1, -1, 0, 1]	$-1/4x^2 - 1/2x + 1/4$	1	0.05462	0.1294
76	$12141835073371x^2 + 1396907830772x - 5146668109896$	[1, 3, 2, 1]	$-x^2$	1	0.2862	0.3414
77	$-14715169128319x^2 + 10744927242599x - 1176426224176$	[1, 6, -3, 1]	$1/2x^2 + 1/2$	1	0.2849	0.4386
78	$12730048185459x^2 + 16112076959091x - 14126956016231$	[1, 2, 1, 1]	$1/2x - 1/2$	1	0.06898	0.1651
79	$52317100572608x^2 + 22876134506355x - 32224153918182$	[1, -1, 2, 1]	$-x^2$	1	0.2584	0.4058
80	$-68429177531699x^2 + 29440966066253x + 6764057547264$	[1, 4, -2, 1]	$1/2x^2 + 1/2$	1	0.2996	0.3580

Number:  $\xi = .3222\dots$  Equation:  $x^3 + 3x - 1 = 0$ . “All” optimal polynomials.

1	$3x^2 - x$	$[0, -1, 3, 1]$	$-x^2$	0	0.09698	0.1078
2	$-4x^2 - 8x + 3$	$[3, -8, -4, 1]$	$x - 1$	-3	0.4674	0.6500
3	$9x^2 - 6x + 1$	$[1, 10, 1, 3]$	$1/3x^2 - 2/3x + 1/3$	-1	0.09060	0.1320
4	$-15x^2 - 20x + 8$	$[2, 3, -1, 1]$	$x - 1$	-2	0.3033	0.5224
5	$-6x^2 - 26x + 9$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0.2436	0.2858
6	$-26x^2 + 27x - 6$	$[1, -7, -1, 2]$	$x$	1	0.08464	0.1673
7	$-53x^2 - 45x + 20$	$[1, 2, 1, 1]$	$1 - x$	1	0.2211	0.4119
8	$-27x^2 - 72x + 26$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0.1939	0.2465
9	$72x^2 - 107x + 27$	$[1, -3, 0, 1]$	$-x$	1	0.1380	0.2092
10	$-179x^2 - 82x + 45$	$[1, 2, -1, 1]$	$x - 1$	1	0.2617	0.3332
11	$-107x^2 - 189x + 72$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0.1387	0.2033
12	$189x^2 - 393x + 107$	$[1, 3, 0, 1]$	$-x$	-1	0.1932	0.2522
13	$-393x^2 - 460x + 189$	$[1, 2, 0, 1]$	$x$	-1	0.08529	0.1619
14	$-1368x^2 - 987x + 460$	$[0, -1, 3, 1]$	$-x^2$	0	0.07830	0.1279
15	$4183x^2 - 3958x + 841$	$[4, 14, -5, 1]$	$x^2 - x + 1$	-4	0.5722	1.108
16	$-4564x^2 - 1593x + 987$	$[1, 10, -1, 4]$	$1/7x^2 + 3/7x - 2/7$	-1	0.09047	0.1057
17	$-14679x^2 - 215x + 1593$	$[1, -1, 2, 1]$	$-x^2$	-1	0.09714	0.09831
18	$-45415x^2 - 31596x + 14894$	$[2, 15, -1, 1]$	$-x^2 - x$	-2	0.3961	0.6304
19	$-45630x^2 + 14034x + 215$	$[1, 9, -1, 2]$	$-1/5x^2 + 1/5x + 1/5$	-1	0.09744	0.1067
20	$-59664x^2 - 123071x + 45845$	$[1, 3, -2, 1]$	$1 - x$	-1	0.4804	0.6600
21	$137105x^2 - 87732x + 14034$	$[1, -4, 0, 1]$	$1/3x^2 - 2/3x + 1/3$	-1	0.09131	0.1297
22	$224837x^2 + 309549x - 123071$	$[2, -3, 1, 1]$	$1 - x$	-2	0.3155	0.5318
23	$87732x^2 + 397281x - 137105$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0.2470	0.2885
24	$-397281x^2 + 400301x - 87732$	$[1, -7, 1, 2]$	$-x$	-1	0.08080	0.1643
25	$797582x^2 + 703810x - 309549$	$[1, 2, -1, 1]$	$x - 1$	-1	0.2174	0.4195
26	$400301x^2 + 1104111x - 397281$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0.1981	0.2497
27	$-1104111x^2 + 1598184x - 400301$	$[1, 3, 0, 1]$	$-x$	1	0.1337	0.2059
28	$2702295x^2 + 1313848x - 703810$	$[1, 2, -1, 1]$	$x - 1$	1	0.2591	0.3379
29	$-1598184x^2 - 2912032x + 1104111$	$[0, -1, -1, 1]$	$1/3x^2 + 1/3x + 1/3$	0	0.1430	0.2066
30	$-2912032x^2 + 5898663x - 1598184$	$[1, 3, 0, 1]$	$x$	1	0.1890	0.2490
31	$5898663x^2 + 7137912x - 2912032$	$[1, -2, 0, 1]$	$x$	1	0.08919	0.1649
32	$20608021x^2 + 15515073x - 7137912$	$[0, -1, 3, 1]$	$-x^2$	0	0.07717	0.1302
33	$63869027x^2 - 58539850x + 12230860$	$[4, -14, 5, 1]$	$-x^2 + x - 1$	4	0.5794	1.087
34	$68961975x^2 + 25937198x - 15515073$	$[1, 10, 1, 4]$	$-1/7x^2 - 3/7x + 2/7$	1	0.08970	0.1069
35	$222400998x^2 + 8849619x - 25937198$	$[1, 1, 2, 1]$	$-x^2$	1	0.09685	0.09832
36	$-684290573x^2 - 497288051x + 231250617$	$[2, -15, 1, 1]$	$x^2 + x$	2	0.3906	0.6414
37	$693140192x^2 - 195852141x - 8849619$	$[1, 9, 1, 2]$	$1/5x^2 - 1/5x - 1/5$	1	0.09765	0.1055
38	$888992333x^2 + 1892418054x - 701989811$	$[1, -3, -2, 1]$	$1 - x$	1	0.4934	0.6701
39	$2088270195x^2 - 1280696615x + 195852141$	$[1, 4, 0, 1]$	$-1/3x^2 + 2/3x - 1/3$	1	0.09200	0.1274
40	$-3368966810x^2 - 4788261829x + 1892418054$	$[2, -3, -1, 1]$	$x - 1$	2	0.3279	0.5414



41	$6068958444x^2 - 5930360040x + 1280696615$	$[1, 7, 1, 2]$	$1/3x^2 - 2/3x + 1/3$	1	0
42	$-11999318484x^2 - 10995818677x + 4788261829$	$[2, 3, -1, 1]$	$x - 1$	2	0
43	$-5930360040x^2 - 16926178717x + 6068958444$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0
44	$-16926178717x^2 + 23860038564x - 5930360040$	$[1, -7, -1, 2]$	$x$	-1	0
45	$-40786217281x^2 - 20988137547x + 10995818677$	$[1, 2, 1, 1]$	$1 - x$	-1	0
46	$-23860038564x^2 - 44848176111x + 16926178717$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0
47	$44848176111x^2 - 88506294409x + 23860038564$	$[1, -3, 0, 1]$	$-x$	-1	0
48	$-88506294409x^2 - 110684489769x + 44848176111$	$[1, 2, 0, 1]$	$x$	-1	0
49	$-310367059338x^2 - 243547174898x + 110684489769$	$[0, -1, 3, 1]$	$-x^2$	0	0
50	$974965783343x^2 - 865058377325x + 177504374209$	$[4, 14, -5, 1]$	$x^2 - x + 1$	-4	0
51	$-1041785667783x^2 - 420274465356x + 243547174898$	$[1, 10, -1, 4]$	$1/7x^2 + 3/7x - 2/7$	-1	0
52	$-3368904178247x^2 - 219037728285x + 420274465356$	$[1, -1, 2, 1]$	$-x^2$	-1	0
53	$-10307949271812x^2 - 7815196006705x + 3587941906532$	$[2, 15, -1, 1]$	$-x^2 - x$	-2	0
54	$-10526987000097x^2 + 2711790993392x + 219037728285$	$[1, 9, -1, 2]$	$-1/5x^2 + 1/5x + 1/5$	-1	0
55	$-13238777993489x^2 - 29088207735184x + 10746024728382$	$[1, 3, -2, 1]$	$1 - x$	-1	0
56	$31799998728576x^2 - 18662359980273x + 2711790993392$	$[1, -4, 0, 1]$	$1/3x^2 - 2/3x + 1/3$	-1	0
57	$50462358708849x^2 + 74025845212063x - 29088207735184$	$[2, -3, 1, 1]$	$1 - x$	-2	0
58	$-92688205192336x^2 + 87787078669395x - 18662359980273$	$[1, -7, 1, 2]$	$1/3x^2 - 2/3x + 1/3$	-1	0
59	$-180475283861731x^2 - 171615176927340x + 74025845212063$	$[2, -3, 1, 1]$	$1 - x$	-2	0
60	$-87787078669395x^2 - 259402255596735x + 92688205192336$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0
61	$259402255596735x^2 - 356049441200521x + 87787078669395$	$[1, -7, 1, 2]$	$-x$	-1	0
62	$-615451696797256x^2 - 334370246920289x + 171615176927340$	$[1, 2, -1, 1]$	$x - 1$	-1	0
63	$-356049441200521x^2 - 690419688120810x + 259402255596735$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0
64	$690419688120810x^2 - 1327550579198298x + 356049441200521$	$[1, 3, 0, 1]$	$-x$	1	0
65	$-1327550579198298x^2 - 1715209623161909x + 690419688120810$	$[1, 2, 0, 1]$	$x$	1	0
66	$-4673071425715704x^2 - 3818078290287429x + 1715209623161909$	$[0, -1, 3, 1]$	$-x^2$	0	0
67	$14879430764880746x^2 - 12771338745449867x + 2570202758590184$	$[4, 14, -5, 1]$	$x^2 - x + 1$	4	0
68	$-15734423900309021x^2 - 6781163445146583x + 3818078290287429$	$[1, 10, -1, 4]$	$1/7x^2 + 3/7x - 2/7$	1	0
69	$-51021349991214492x^2 - 4609066435130728x + 6781163445146583$	$[1, -1, 2, 1]$	$-x^2$	1	0
70	$-155236146983659331x^2 - 122651062732967751x + 55630416426345220$	$[2, 15, -1, 1]$	$-x^2 - x$	2	0
71	$-159845213418790059x^2 + 37194150685822308x + 4609066435130728$	$[1, 9, -1, 2]$	$-1/5x^2 + 1/5x + 1/5$	1	0
72	$-197039364104612367x^2 - 446950556005678597x + 164454279853920787$	$[1, 3, -2, 1]$	$1 - x$	1	0
73	$484144706691500905x^2 - 271427665476256983x + 37194150685822308$	$[1, -4, 0, 1]$	$1/3x^2 - 2/3x + 1/3$	1	0
74	$755572372167757888x^2 + 1143812303912423424x - 446950556005678597$	$[2, -3, 1, 1]$	$1 - x$	2	0
75	$-1415239969388680407x^2 + 1298427703120271854x - 271427665476256983$	$[1, -7, 1, 2]$	$1/3x^2 - 2/3x + 1/3$	1	0
76	$-2713667672508952261x^2 - 2675864539569512384x + 1143812303912423424$	$[2, -3, 1, 1]$	$1 - x$	2	0
77	$-1298427703120271854x^2 - 3974292242689784238x + 1415239969388680407$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0
78	$3974292242689784238x^2 - 5310523078749495969x + 1298427703120271854$	$[1, -7, 1, 2]$	$-x$	1	0
79	$-9284815321439280207x^2 - 5313925946199584891x + 2675864539569512384$	$[1, 2, -1, 1]$	$x - 1$	1	0
80	$-5310523078749495969x^2 - 10624449024949080860x + 3974292242689784238$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x - 1/3$	0	0

Number:  $\xi = .8437\dots$  Equation:  $x^3 + x^2 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.1318	0.2637
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	-1	0.09768	0.1465
3	$3x^2 + x - 3$	[1, 5, -3, 1]	$-x$	-1	0.1854	0.3915
4	$4x^2 - x - 2$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.06105	0.08013
5	$-5x^2 - 10x + 12$	[1, 3, -3, 1]	$x$	1	0.4636	0.8661
6	$9x^2 + 9x - 14$	[0, 1, -1, 1]	$1/3 x^2 + 1/3 x - 1/3$	0	0.1169	0.2135
7	$32x^2 - 27x$	[2, 9, 2, 1]	$-x^2$	-2	0.4347	0.7441
8	$-9x^2 - 41x + 41$	[1, -5, 1, 2]	$-1/9 x^2 + 2/9 x + 1/9$	-1	0.1566	0.3208
9	$32x^2 - 59x + 27$	[1, 1, 1, 1]	$-x$	-1	0.2737	0.4115
10	$91x^2 + 37x - 96$	[1, -3, 1, 1]	$-x$	-1	0.6113	1.251
11	$23x^2 - 100x + 68$	[1, 1, 0, 1]	$-1/9 x^2 + 2/9 x + 1/9$	-1	0.1456	0.2206
12	$123x^2 - 22x - 69$	[1, 1, 0, 1]	$-x$	-1	0.1859	0.2503
13	$146x^2 - 122x - 1$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.04850	0.08237
14	$268x^2 + 293x - 438$	[1, -3, 2, 1]	$-x$	1	0.3683	0.6710
15	$414x^2 + 171x - 439$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.06852	0.1399
16	$-243x^2 - 1267x + 1242$	[1, 3, -3, 1]	$x$	-1	0.4816	0.9621
17	$1438x^2 - 1557x + 290$	[1, 4, 2, 1]	$1/3 x^2 - 2/3 x + 2/3$	-1	0.2483	0.4688
18	$657x^2 + 1438x - 1681$	[1, -1, 0, 1]	$1/5 x^2 + 2/5$	-1	0.1570	0.2959
19	$-781x^2 + 2995x - 1971$	[0, -1, 1, 1]	$-x$	0	0.4205	0.6312
20	$-3776x^2 + 409x + 2343$	[1, -2, -1, 1]	$-x$	-1	0.5640	0.7877
21	$-124x^2 + 4433x - 3652$	[1, 1, 0, 1]	$-1/9 x^2 + 2/9 x + 1/9$	-1	0.1706	0.2866
22	$-4557x^2 + 3404x + 372$	[1, 1, 0, 1]	$-x$	-1	0.1521	0.2380
23	$-4681x^2 + 7837x - 3280$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.08333	0.1277
24	$-12518x^2 - 6082x + 14043$	[1, -3, 2, 1]	$-x$	1	0.2257	0.4475
25	$17199x^2 - 1755x - 10763$	[0, -1, -1, 1]	$1/3 x^2 + 1/3 x - 1/3$	0	0.06271	0.08793
26	$18954x^2 + 45161x - 51597$	[1, 3, -3, 1]	$-x$	1	0.4762	0.9053
27	$36153x^2 + 43406x - 62360$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.1288	0.2346
28	$-7253x^2 + 134666x - 108459$	[1, -3, 3, 1]	$-x$	-1	0.5069	0.8372
29	$141919x^2 - 93953x - 21759$	[1, 3, -2, 1]	$x$	-1	0.4750	0.6944
30	$28900x^2 + 178072x - 170819$	[1, 1, 0, 1]	$1/9 x^2 - 2/9 x - 1/9$	-1	0.1642	0.3196
31	$-149172x^2 + 228619x - 86700$	[1, -1, 0, 1]	$-x$	-1	0.2283	0.3583
32	$-120272x^2 + 406691x - 257519$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.1338	0.1992
33	$526963x^2 - 16975x - 360816$	[1, 3, -2, 1]	$x$	1	0.1895	0.2786
34	$647235x^2 - 423666x - 103297$	[0, -1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.05296	0.07700
35	$1070901x^2 + 1397767x - 1941705$	[1, 3, 3, 1]	$-x$	1	0.4022	0.7329
36	$1718136x^2 + 974101x - 2045002$	[0, 1, 1, 1]	$-1/3 x^2 - 1/3 x + 1/3$	0	0.08262	0.1597
37	$-744035x^2 - 5481274x + 5154408$	[1, 3, -3, 1]	$x$	-1	0.5008	0.9529
38	$6455375x^2 - 5668377x + 187103$	[1, 4, 2, 1]	$1/3 x^2 - 2/3 x + 2/3$	-1	0.2372	0.4203
39	$2462171x^2 + 6455375x - 7199410$	[1, -1, 0, 1]	$1/5 x^2 + 2/5$	-1	0.1600	0.3074
40	$-3993204x^2 + 12123752x - 7386513$	[0, -1, 1, 1]	$-x$	0	0.3828	0.5665

41	$-16116956x^2 - 599895x + 11979612$	$[1, -2, -1, 1]$	$-x$	-1	0.5709	0.8870
42	$-1531033x^2 + 18579127x - 14585923$	$[1, 1, 0, 1]$	$-1/9x^2 + 2/9x + 1/9$	-1	0.1665	0.2703
43	$-20110160x^2 + 11523857x + 4593099$	$[1, 1, 0, 1]$	$-x$	-1	0.1646	0.2272
44	$-21641193x^2 + 30102984x - 9992824$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.06831	0.1111
45	$-51744177x^2 - 33289562x + 64923579$	$[1, -3, 2, 1]$	$-x$	1	0.2681	0.5089
46	$73385370x^2 + 3186578x - 54930755$	$[0, -1, -1, 1]$	$1/3x^2 + 1/3x - 1/3$	0	0.06344	0.09910
47	$70198792x^2 + 201701495x - 220156110$	$[1, 3, -3, 1]$	$-x$	1	0.4817	0.9351
48	$143584162x^2 + 204888073x - 275086865$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.1393	0.2545
49	$-61303911x^2 + 562255189x - 430752486$	$[1, -3, 3, 1]$	$-x$	-1	0.4910	0.7850
50	$623559100x^2 - 308144664x - 183911733$	$[1, 3, -2, 1]$	$x$	-1	0.5095	0.6783
51	$82280251x^2 + 767143262x - 705839351$	$[1, 1, 0, 1]$	$1/9x^2 - 2/9x - 1/9$	-1	0.1693	0.3145
52	$-684863011x^2 + 870399853x - 246840753$	$[1, -1, 0, 1]$	$-x$	-1	0.1839	0.3125
53	$-602582760x^2 + 1637543115x - 952680104$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.1205	0.1777
54	$2240125875x^2 + 252485416x - 1807748280$	$[1, 3, -2, 1]$	$x$	1	0.1903	0.3167
55	$2842708635x^2 - 1385057699x - 855068176$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.05676	0.07537
56	$4227766334x^2 + 6540485446x - 8528125905$	$[1, 3, 3, 1]$	$-x$	1	0.4310	0.7905
57	$7070474969x^2 + 5155427747x - 9383194081$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.09664	0.1807
58	$-1915047222x^2 - 23524144019x + 21211424907$	$[1, 3, -3, 1]$	$x$	-1	0.5125	0.9326
59	$21609096797x^2 - 25041519351x + 5745141666$	$[1, 3, 2, 1]$	$-x$	-1	0.4900	0.8807
60	$28679571766x^2 - 19886091604x - 3638052415$	$[1, 0, 1, 1]$	$-2/9x^2 - 5/9x + 2/9$	-1	0.2601	0.3894
61	$-8985522191x^2 - 28679571766x + 30594618988$	$[1, 1, -1, 1]$	$-1/5x^2 - 2/5$	-1	0.1606	0.3155
62	$19694049575x^2 - 48565663370x + 26956566573$	$[0, 1, 1, 1]$	$-x$	0	0.3413	0.5026
63	$68259712945x^2 + 12431532577x - 59082148725$	$[1, 1, -2, 1]$	$-x$	1	0.5689	1.014
64	$10708527384x^2 - 77245235136x + 57551185561$	$[1, 1, 0, 1]$	$-1/9x^2 + 2/9x + 1/9$	1	0.1599	0.2518
65	$87953762520x^2 - 36134130793x - 32125582152$	$[1, 1, 0, 1]$	$-x$	1	0.1749	0.2278
66	$98662289904x^2 - 113379365929x + 25425603409$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.05384	0.09732
67	$212041655833x^2 + 171898976399x - 295986869712$	$[1, -3, 2, 1]$	$-x$	-1	0.3096	0.5729
68	$-310703945737x^2 - 58519610470x + 270561266303$	$[0, -1, -1, 1]$	$1/3x^2 + 1/3x - 1/3$	0	0.06318	0.1133
69	$-252184335267x^2 - 891969157777x + 932111837211$	$[1, 3, -3, 1]$	$-x$	-1	0.4798	0.9543
70	$562888281004x^2 + 950488768247x - 1202673103514$	$[0, -1, -1, 1]$	$1/3x^2 + 1/3x - 1/3$	0	0.1479	0.2727
71	$387600487243x^2 - 2328449665522x + 1688664843012$	$[1, -3, 3, 1]$	$x$	-1	0.4679	0.7269
72	$-2716050152765x^2 + 913463868526x + 1162801461729$	$[1, -3, -2, 1]$	$x$	-1	0.5371	0.6963
73	$-3103650640008x^2 + 3241913534048x - 525863381283$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.1417	0.2753
74	$-2928362846247x^2 + 6520851967817x - 3417201327809$	$[1, -2, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	-1	0.1062	0.1568
75	$-9449214814064x^2 - 2439524364685x + 8785088538741$	$[1, 5, -3, 1]$	$-x$	-1	0.1881	0.3633
76	$-12377577660311x^2 + 4081327603132x + 5367887210932$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.05979	0.07754
77	$16458905263443x^2 + 30123042531554x - 37132732980933$	$[1, 3, -3, 1]$	$x$	1	0.4540	0.8420
78	$28836482923754x^2 + 26041714928422x - 42500620191865$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x + 1/3$	0	0.1102	0.2022
79	$-97378818044041x^2 + 92098984761926x - 8384303985996$	$[2, 9, 2, 1]$	$x^2$	2	0.4117	0.7830
80	$-126215300967795x^2 + 66057269833504x + 34116316205869$	$[0, -1, 1, 1]$	$-2/9x^2 - 5/9x + 2/9$	0	0.2799	0.3770

Number:  $\xi = .7113\dots$  Equation:  $x^3 + x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-1/3x^2 - 1/3x$	0	0.2053	0.4107
2	$-2x^2 + 1$	[1, 0, -2, 1]	$1/6x^2 + 2/3x - 1/2$	-1	0.04810	0.06013
3	$-4x^2 - 7x + 7$	[3, 7, 7, 1]	$1 - x$	-3	0.1701	0.3957
4	$9x^2 - 5x - 1$	[1, -17, 2, 3]	$1/2x^2 + 1/2$	-1	0.2117	0.2797
5	$13x^2 + 2x - 8$	[0, -1, 1, 1]	$-1/5x^2 - 3/5x + 1/5$	0	0.1449	0.2032
6	$-12x^2 + 24x - 11$	[1, -2, -2, 1]	$1/3x^2$	-1	0.08330	0.1216
7	$36x^2 + 25x - 36$	[1, 3, 1, 1]	$x$	-1	0.1333	0.3309
8	$48x^2 + x - 25$	[0, -1, 1, 1]	$-1/3x^2 - 1/3x$	0	0.09618	0.1223
9	$132x^2 + 27x - 86$	[0, -2, 3, 1]	$-1/2x^2 - x + 1/2$	0	0.3377	0.4952
10	$85x^2 - 142x + 58$	[1, -6, 0, 1]	$-2/7x^2 - 1/7x - 2/7$	1	0.2079	0.3171
11	$217x^2 - 115x - 28$	[0, 1, 1, 1]	$-1/3x^2 - x$	0	0.4272	0.5544
12	$227x^2 + 197x - 255$	[1, 2, -1, 1]	$1/10x^2 - 1/5x + \frac{9}{10}$	-1	0.4769	1.139
13	$302x^2 - 257x + 30$	[1, 1, 0, 1]	$-1/3x^2$	-1	0.1128	0.1956
14	$292x^2 - 569x + 257$	[1, -1, 1, 1]	$-1/3x^2 - 1/3x$	-1	0.1625	0.2385
15	$861x^2 + 619x - 876$	[1, 5, -3, 1]	$-x$	-1	0.2740	0.6756
16	$-1153x^2 - 50x + 619$	[0, -1, -1, 1]	$1/3x^2 + 1/3x$	0	0.1926	0.2485
17	$25x^2 - 2014x + 1420$	[1, 2, -1, 1]	$-1/2 - 1/2x$	-1	0.5029	0.7530
18	$2039x^2 - 1345x - 75$	[1, -1, 1, 1]	$-x$	-1	0.3667	0.5267
19	$-1128x^2 - 2064x + 2039$	[1, 1, 0, 1]	$1/3x$	-1	0.08909	0.2026
20	$936x^2 - 5423x + 3384$	[1, 1, 1, 1]	$-x$	-1	0.4375	0.6209
21	$6359x^2 - 576x - 2808$	[1, -3, 1, 1]	$-x$	-1	0.4279	0.5149
22	$7295x^2 - 5999x + 576$	[0, 1, 1, 1]	$-1/3x^2 - 1/3x$	0	0.2285	0.3845
23	$7103x^2 - 13486x + 5999$	[1, 2, 1, 1]	$-1/3x^2 - 1/3x$	1	0.3169	0.4675
24	$13846x^2 + 912x - 7655$	[1, 2, -1, 1]	$1/2 - 1/2x$	1	0.04821	0.06316
25	$-12934x^2 - 49193x + 41538$	[1, 3, -3, 1]	$x$	1	0.4329	0.7715
26	$-26780x^2 - 50105x + 49193$	[0, -1, 1, 1]	$-1/3x^2 - 1/3x$	0	0.1822	0.4100
27	$-63039x^2 + 30235x + 10391$	[1, -6, -1, 1]	$-1/2x^2 - 1/2$	1	0.2172	0.2731
28	$-89819x^2 - 19870x + 59584$	[0, 1, 1, 1]	$-1/5x^2 - 3/5x + 1/5$	0	0.1447	0.2154
29	$86364x^2 - 159768x + 69949$	[1, 1, -2, 1]	$1/3x^2$	-1	0.07720	0.1146
30	$-246132x^2 - 189143x + 259092$	[1, 3, 1, 1]	$x$	-1	0.1444	0.3517
31	$332496x^2 + 29375x - 189143$	[0, 1, -1, 1]	$1/3x^2 + 1/3x$	0	0.09651	0.1285
32	$-911124x^2 - 247893x + 637378$	[0, -2, 3, 1]	$1/2x^2 + x - 1/2$	0	0.3365	0.5261
33	$-608003x^2 + 938738x - 360110$	[1, -6, 0, 1]	$-2/7x^2 - 1/7x - 2/7$	-1	0.1900	0.2977
34	$-1519127x^2 + 690845x + 277268$	[0, 1, 1, 1]	$-1/3x^2 - x$	0	0.4379	0.5430
35	$1546741x^2 + 1463899x - 1824009$	[1, -2, 1, 1]	$-1/10x^2 + 1/5x - \frac{9}{10}$	1	0.5103	1.206
36	$-2127130x^2 + 1629583x - 82842$	[1, 1, 0, 1]	$1/3x^2$	1	0.1171	0.1859
37	$-2099516x^2 + 3784327x - 1629583$	[1, 1, 1, 1]	$-1/3x^2 - 1/3x$	1	0.1503	0.2245
38	$5883843x^2 + 4668965x - 6298548$	[1, -5, 3, 1]	$x$	1	0.2963	0.7176
39	$7983359x^2 + 884638x - 4668965$	[0, -1, 1, 1]	$-1/3x^2 - 1/3x$	0	0.1931	0.2616
40	$-442319x^2 + 13867202x - 9640556$	[1, 2, 1, 1]	$-1/2 - 1/2x$	1	0.4986	0.7401

41	$14309521x^2 - 8313599x - 1326957$	$[1, 1, -1, 1]$	$x$	1	0.3777	0.5084
42	$7541040x^2 + 14751840x - 14309521$	$[1, 1, 0, 1]$	$-1/3x$	1	0.09518	0.2096
43	$-7210800x^2 + 36932641x - 22623120$	$[1, -1, 1, 1]$	$-x$	1	0.4244	0.5998
44	$44143441x^2 - 990720x - 21632400$	$[1, 3, -1, 1]$	$x$	1	0.4312	0.5350
45	$51354241x^2 - 37923361x + 990720$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.2368	0.3661
46	$-51024001x^2 + 89607842x - 37923361$	$[1, 2, -1, 1]$	$1/3x^2 + 1/3x$	1	0.2926	0.4399
47	$95827922x^2 + 12770400x - 57574321$	$[1, 2, 1, 1]$	$1/2x - 1/2$	1	0.04830	0.06659
48	$-83057522x^2 - 345058087x + 287483766$	$[1, -3, -3, 1]$	$x$	1	0.4455	0.7805
49	$-178885444x^2 - 357828487x + 345058087$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.1944	0.4237
50	$440886009x^2 - 178827845x - 95885521$	$[1, 6, 1, 1]$	$1/2x^2 + 1/2$	1	0.2222	0.2693
51	$619771453x^2 + 179000642x - 440943608$	$[0, -1, 1, 1]$	$-1/5x^2 - 3/5x + 1/5$	0	0.1440	0.2290
52	$619829052x^2 - 1060542264x + 440770811$	$[1, 1, 2, 1]$	$-1/3x^2$	1	0.07114	0.1077
53	$1680371316x^2 + 1418716345x - 1859487156$	$[1, 3, -1, 1]$	$-x$	1	0.1556	0.3732
54	$-2300200368x^2 - 358174081x + 1418716345$	$[0, -1, -1, 1]$	$1/3x^2 + 1/3x$	0	0.09659	0.1357
55	$4338745765x^2 - 6184252942x + 2203681258$	$[1, 6, 0, 1]$	$1/2x^2 - 1/2$	1	0.1725	0.2792
56	$10619517817x^2 - 4049188435x - 2493238588$	$[1, -2, 1, 1]$	$-1/3x^2 - x$	1	0.4475	0.5372
57	$-10522998707x^2 - 10812556037x + 13016237295$	$[1, 3, -2, 1]$	$-1/10x^2 + 1/5x - \frac{9}{10}$	1	0.5434	1.274
58	$96519110x^2 - 14861744472x + 10522998707$	$[0, 1, 1, 1]$	$-1/3x$	0	0.1680	0.2522
59	$14958263582x^2 - 10233441377x - 289557330$	$[1, 1, 0, 1]$	$-x$	-1	0.1211	0.1778
60	$15054782692x^2 - 25095185849x + 10233441377$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.1383	0.2110
61	$-40149968541x^2 - 34930906699x + 45164348076$	$[1, 3, -2, 1]$	$x$	1	0.3186	0.7609
62	$55204751233x^2 + 9835720850x - 34930906699$	$[0, 1, -1, 1]$	$1/3x^2 + 1/3x$	0	0.1931	0.2766
63	$4917860425x^2 - 95354719774x + 65341673500$	$[1, 2, 1, 1]$	$1/2x + 1/2$	-1	0.4931	0.7259
64	$-100272580199x^2 + 50588092225x + 14753581275$	$[1, -1, -1, 1]$	$x$	-1	0.3878	0.4950
65	$50286890808x^2 + 105190440624x - 100272580199$	$[1, -1, 0, 1]$	$1/3x$	-1	0.1012	0.2163
66	$54903549816x^2 - 251133252623x + 150860672424$	$[1, -1, -1, 1]$	$x$	-1	0.4103	0.5780
67	$-306036802439x^2 - 13849977024x + 164710649448$	$[1, -3, -1, 1]$	$x$	-1	0.4335	0.5599
68	$-4616659008x^2 + 356323693247x - 251133252623$	$[1, -1, 0, 1]$	$1/3x + 1/3$	-1	0.3352	0.5018
69	$360940352255x^2 - 237283275599x - 13849977024$	$[1, -1, 0, 1]$	$x$	-1	0.2447	0.3508
70	$365557011263x^2 - 593606968846x + 237283275599$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.2685	0.4133
71	$-662360495686x^2 - 132890394672x + 429693879095$	$[1, -1, -1, 1]$	$1/2x - 1/2$	-1	0.04825	0.07051
72	$-529470101014x^2 - 2416775366153x + 1987081487058$	$[1, 3, 3, 1]$	$-x$	-1	0.4570	0.7879
73	$-1191830596700x^2 - 2549665760825x + 2416775366153$	$[0, 1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.2064	0.4369
74	$-3079135861839x^2 + 1025826029275x + 828365063111$	$[1, 6, -1, 1]$	$-1/2x^2 - 1/2$	1	0.2267	0.2682
75	$-4270966458539x^2 - 1523839731550x + 3245140429264$	$[0, 1, 1, 1]$	$-1/5x^2 - 3/5x + 1/5$	0	0.1430	0.2438
76	$4436971025964x^2 - 7018093185528x + 2747126726989$	$[1, 1, -2, 1]$	$1/3x^2$	-1	0.06515	0.1012
77	$-11455064211492x^2 - 10563786350903x + 13310913077892$	$[1, 3, 1, 1]$	$x$	-1	0.1667	0.3952
78	$-15892035237456x^2 - 3545693165375x + 10563786350903$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.09643	0.1438
79	$-30892792614323x^2 + 40584719381618x - 13237619932670$	$[1, -6, 0, 1]$	$-1/2x^2 + 1/2$	-1	0.1553	0.2618
80	$-74131927300727x^2 + 22929546699965x + 21200865847028$	$[1, 2, 1, 1]$	$-1/3x^2 - x$	-1	0.4561	0.5370

Number:  $\xi = .5260\dots$  Equation:  $x^3 + x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1/4x^2 + 3/4x + 1/4$	-1	0.1974	0.5922
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-1/2x^2$	-1	0.1092	0.1365
3	$-2x^2 + 3x - 1$	$[1, -1, 2, 1]$	$-1/2x^2 - 1/2x - 1/2$	-1	0.2215	0.3445
4	$-4x^2 + 4x - 1$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.04312	0.08894
5	$-8x^2 - 11x + 8$	$[2, 9, -6, 1]$	$-x$	2	0.1715	0.3530
6	$-12x^2 - 7x + 7$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.1840	0.3092
7	$-20x^2 - 18x + 15$	$[0, 1, 2, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.05597	0.1328
8	$-73x^2 + 46x - 4$	$[3, 29, 3, 2]$	$-x^2$	3	0.2063	0.2888
9	$-95x^2 - 47x + 51$	$[1, 10, 1, 3]$	$-1/4x^2 - 3/4x - 1/4$	1	0.2493	0.3821
10	$-144x^2 + 167x - 48$	$[1, 3, -1, 1]$	$-1/2x^2$	1	0.1066	0.1946
11	$120x^2 - 335x + 143$	$[1, 1, -2, 1]$	$1/2x^2 + 1/2x + 1/2$	1	0.3864	0.5064
12	$-311x^2 - 384x + 288$	$[1, 4, 3, 1]$	$-1/3x^2 + 1/3x - 2/3$	1	0.2963	0.6573
13	$-455x^2 - 217x + 240$	$[1, 0, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	1	0.3749	0.5645
14	$264x^2 - 502x + 191$	$[1, 1, -1, 1]$	$1/6x^2 - 1/6x - 1/6$	1	0.09503	0.1351
15	$-766x^2 - 601x + 528$	$[1, 1, 0, 1]$	$x$	1	0.1164	0.2433
16	$-1030x^2 - 99x + 337$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.1897	0.2117
17	$-1796x^2 - 700x + 865$	$[0, -1, 2, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.06315	0.08739
18	$-1096x^2 - 6253x + 3592$	$[2, 8, 3, 1]$	$-x$	-2	0.4026	0.5478
19	$-5157x^2 + 6880x - 2192$	$[1, 7, -3, 2]$	$x$	-1	0.2564	0.4264
20	$-8049x^2 - 73x + 2265$	$[1, 1, 1, 1]$	$-1/4x^2 - 3/4x - 1/4$	-1	0.2504	0.2702
21	$-3988x^2 - 13206x + 8049$	$[1, -1, 1, 1]$	$-1/2x$	-1	0.1773	0.2593
22	$-9218x^2 + 20013x - 7976$	$[1, 1, -1, 1]$	$x$	-1	0.2141	0.2935
23	$-29231x^2 - 19678x + 18436$	$[1, 3, 1, 1]$	$-x$	-1	0.2402	0.4447
24	$-38449x^2 + 335x + 10460$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.3746	0.4024
25	$43679x^2 - 33554x + 5565$	$[1, -2, -1, 1]$	$1/2x^2 + 1/2x + 1/2$	1	0.4357	0.7000
26	$-24001x^2 - 52897x + 34461$	$[1, 1, 1, 1]$	$1/9x^2 + 5/9x + 5/9$	1	0.5614	0.9153
27	$-14448x^2 + 53232x - 24001$	$[1, 0, -1, 1]$	$1/2x$	1	0.1495	0.1909
28	$67680x^2 + 19343x - 28896$	$[1, -1, 0, 1]$	$x$	1	0.1271	0.1607
29	$82128x^2 - 33889x - 4895$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.1687	0.1980
30	$149808x^2 - 14546x - 33791$	$[0, -1, 2, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.06148	0.06518
31	$-314162x^2 - 468669x + 333407$	$[2, -5, -5, 1]$	$x - 1$	-2	0.2852	0.5577
32	$633023x^2 - 324009x - 4699$	$[1, 10, 1, 2]$	$1/3x^2 - 1/3x - 1/3$	-1	0.2167	0.2735
33	$-478516x^2 - 951884x + 633023$	$[1, 2, 0, 1]$	$1/2x$	-1	0.1289	0.2184
34	$473368x^2 - 2068571x + 957032$	$[1, 2, 1, 1]$	$-x$	-1	0.3200	0.4053
35	$2541939x^2 + 463072x - 946736$	$[1, -3, 1, 1]$	$-x$	-1	0.2542	0.2979
36	$3015307x^2 - 1605499x + 10296$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.3224	0.4138
37	$-2547087x^2 - 3483527x + 2536791$	$[1, 1, -1, 1]$	$-1/6x^2 + 1/6x - 5/6$	1	0.3407	0.7035
38	$468220x^2 - 5089026x + 2547087$	$[0, 1, 1, 1]$	$-1/2x$	0	0.1912	0.2407
39	$5557246x^2 - 1142427x - 936440$	$[1, 1, 0, 1]$	$-x$	-1	0.1199	0.1284
40	$6025466x^2 - 6231453x + 1610647$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.1359	0.2720

41	$11582712x^2 - 7373880x + 674207$	$[0, 1, 2, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.05142	0.0724
42	$-30539304x^2 - 26700049x + 22491217$	$[2, 5, -5, 1]$	$x - 1$	-2	0.1695	0.3909
43	$45656641x^2 - 53335151x + 15421967$	$[1, 10, 1, 2]$	$1/3x^2 - 1/3x - 1/3$	-1	0.2152	0.3909
44	$-49495896x^2 - 60773978x + 45656641$	$[1, 2, 0, 1]$	$1/2x$	-1	0.07349	0.1637
45	$11278082x^2 - 194144329x + 98991792$	$[1, 2, 1, 1]$	$-x$	-1	0.3945	0.4983
46	$205422411x^2 - 65157546x - 22556164$	$[1, -3, 1, 1]$	$-x$	-1	0.2323	0.2584
47	$-243640225x^2 - 189760761x + 167204597$	$[1, 1, -1, 1]$	$1/4x^2 + 3/4x + 1/4$	-1	0.2332	0.4844
48	$422122904x^2 - 324459421x + 53879464$	$[1, 2, 0, 1]$	$1/2x^2$	-1	0.09681	0.1556
49	$-395183172x^2 + 773522057x - 297519689$	$[1, -1, -2, 1]$	$1/2x^2 + 1/2x + 1/2$	-1	0.2930	0.4128
50	$-817306076x^2 + 1097981478x - 351399153$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.06465	0.1071
51	$-1915287554x^2 - 2100519075x + 1634612152$	$[2, -9, -6, 1]$	$-x$	-2	0.1244	0.3033
52	$2732593630x^2 + 1002537597x - 1283212999$	$[0, -1, -1, 1]$	$1/2x^2 + 1/2x + 1/2$	0	0.1898	0.2572
53	$-4647881184x^2 - 3103056672x + 2917825151$	$[0, 1, 2, 1]$	$1/3x^2 + 2/3x - 1/3$	0	0.06014	0.1107
54	$-15316644191x^2 + 13930235904x - 3089649024$	$[3, 29, 3, 2]$	$-x^2$	3	0.1807	0.3375
55	$21509349887x^2 + 6034289471x - 9123938495$	$[1, -10, -1, 3]$	$1/4x^2 + 3/4x + 1/4$	1	0.2543	0.3200
56	$7737530208x^2 + 36825994078x - 21509349887$	$[1, 2, 2, 1]$	$-1/2x$	1	0.1960	0.2715
57	$-29088463870x^2 + 44721940511x - 15475060416$	$[1, -1, 1, 1]$	$-x$	1	0.1520	0.2346
58	$73810404381x^2 + 71790331194x - 58176927740$	$[1, 3, -1, 1]$	$x$	1	0.2178	0.5592
59	$102898868251x^2 + 27068390683x - 42701867324$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.3816	0.4737
60	$-124249801913x^2 + 54479543906x + 5717457021$	$[1, 2, -1, 1]$	$1/2x^2 + 1/2x + 1/2$	1	0.5014	0.5989
61	$-50439397532x^2 + 126269875100x - 52459470719$	$[1, 0, 1, 1]$	$-2/9x^2 - 1/9x - 1/9$	1	0.1196	0.1594
62	$176709272632x^2 + 98858721877x - 100878795064$	$[1, -1, 1, 1]$	$x$	1	0.1232	0.2020
63	$227148670164x^2 - 27411153223x - 48419324345$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.1835	0.1945
64	$-403857942796x^2 - 71447568654x + 149298119409$	$[0, 1, -2, 1]$	$1/3x^2 + 2/3x - 1/3$	0	0.06354	0.0742
65	$332410374142x^2 + 1360871947797x - 807715885592$	$[2, 6, 5, 1]$	$x$	2	0.3794	0.5357
66	$736268316938x^2 + 1432319516451x - 957014005001$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.3788	0.6481
67	$1764729890593x^2 - 372627491567x - 292193256717$	$[1, -9, -1, 2]$	$-1/3x^2 + 1/3x + 1/3$	1	0.2395	0.2567
68	$1068678691080x^2 + 2793191464248x - 1764729890593$	$[1, 1, 0, 1]$	$-1/2x$	1	0.1578	0.2439
69	$-1724512773168x^2 + 4970765963833x - 2137357382160$	$[1, -2, 1, 1]$	$-x$	1	0.2628	0.3430
70	$6695278737001x^2 + 3036180937344x - 3449025546336$	$[1, 3, -1, 1]$	$x$	1	0.2508	0.3689
71	$8419791510169x^2 - 1934585026489x - 1311668164176$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.3575	0.3850
72	$-9075625592257x^2 + 9698542454570x - 2590419108577$	$[1, 2, -1, 1]$	$1/2x^2 + 1/2x + 1/2$	1	0.4275	0.8323
73	$6039444654913x^2 + 10800138365425x - 7351112819089$	$[1, 1, 1, 1]$	$1/9x^2 + 5/9x + 5/9$	1	0.4657	0.8270
74	$2380346855256x^2 - 12734723391914x + 6039444654913$	$[1, 0, -1, 1]$	$1/2x$	1	0.1703	0.2145
75	$-15115070247170x^2 - 1101595910855x + 4760693710512$	$[1, -1, 0, 1]$	$x$	1	0.1262	0.1393
76	$-17495417102426x^2 + 11633127481059x - 1278750944401$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x - 1/2$	0	0.1523	0.2205
77	$-32610487349596x^2 + 10531531570204x + 3481942766111$	$[0, -1, 2, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.05796	0.0646
78	$75752506269396x^2 + 90781873244695x - 68702917465303$	$[2, -5, -5, 1]$	$x - 1$	-2	0.2129	0.4832
79	$-133923892164495x^2 + 103865158213897x - 17581120374297$	$[1, 10, 1, 2]$	$1/3x^2 - 1/3x - 1/3$	-1	0.1930	0.3124
80	$118894525189196x^2 + 192095278059594x - 133923892164495$	$[1, 2, 0, 1]$	$1/2x$	-1	0.1044	0.1952

Number:  $\xi = .2956\dots$  Equation:  $x^3 + x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - 3x + 1$	[1, -3, -1, 1]	$x$	-1	0.2325	0.2841
2	$-2x^2 + 4x - 1$	[1, -3, -1, 1]	$x$	-1	0.1222	0.1603
3	$6x^2 + 5x - 2$	[1, -3, -1, 1]	$x$	-1	0.08125	0.1467
4	$19x^2 - 9x + 1$	[1, -4, 2, 1]	$-x^2$	-1	0.07119	0.08736
5	$-47x^2 - 47x + 18$	[3, -10, 1, 1]	$x - 1$	-3	0.3068	0.6587
6	$-28x^2 - 56x + 19$	[0, 1, 1, 1]	$-1/4x^2 - 1/2x - 1/4$	0	0.1828	0.2495
7	$28x^2 - 103x + 28$	[1, 14, 4, 3]	$-x$	1	0.1828	0.2098
8	$-131x^2 - 56x + 28$	[1, 2, -1, 1]	$x$	1	0.08741	0.1074
9	$346x^2 - 356x + 75$	[1, 4, -2, 1]	$x^2$	1	0.05640	0.1122
10	$702x^2 + 963x - 346$	[3, -10, -2, 1]	$-x$	3	0.1220	0.2026
11	$-261x^2 + 2452x - 702$	[1, -10, 4, 3]	$-x$	1	0.2338	0.2556
12	$2713x^2 + 81x - 261$	[1, 3, -1, 1]	$x$	1	0.08461	0.08547
13	$2632x^2 + 8400x - 2713$	[1, 3, 1, 1]	$-x$	1	0.2398	0.2883
14	$-5768x^2 + 10609x - 2632$	[1, -3, 1, 1]	$-x$	1	0.1130	0.1534
15	$16377x^2 + 14672x - 5768$	[1, 3, -1, 1]	$x$	1	0.07963	0.1534
16	$-53194x^2 + 21492x - 1705$	[1, 4, -2, 1]	$x^2$	1	0.07341	0.08547
17	$-127880x^2 - 136385x + 51489$	[3, -10, -1, 1]	$1 - x$	3	0.3399	0.6872
18	$-74686x^2 - 157877x + 53194$	[0, -1, 1, 1]	$-1/4x^2 - 1/2x - 1/4$	0	0.1911	0.2556
19	$83191x^2 - 277252x + 74686$	[1, -14, 4, 3]	$-x$	1	0.1743	0.2026
20	$-360443x^2 - 174887x + 83191$	[1, 2, -1, 1]	$x$	1	0.08706	0.1122
21	$978964x^2 - 917111x + 185556$	[1, 4, -2, 1]	$x^2$	1	0.05611	0.1074
22	$1896075x^2 + 2751336x - 978964$	[3, -10, -2, 1]	$-x$	3	0.1310	0.2098
23	$-855261x^2 + 6667189x - 1896075$	[1, -10, 4, 3]	$-x$	1	0.2274	0.2495
24	$7522450x^2 + 669708x - 855261$	[1, 3, -1, 1]	$x$	1	0.08558	0.08736
25	$6852742x^2 + 23422611x - 7522450$	[1, 3, 1, 1]	$-x$	1	0.2452	0.2915
26	$-16569869x^2 + 28080676x - 6852742$	[1, -3, 1, 1]	$-x$	1	0.1042	0.1467
27	$44650545x^2 + 42856865x - 16569869$	[1, 3, -1, 1]	$x$	1	0.07787	0.1603
28	$-148727824x^2 + 50031585x - 1793680$	[1, 4, -2, 1]	$x^2$	1	0.07550	0.08405
29	$-347487233x^2 - 394358207x + 146934144$	[3, -10, -1, 1]	$1 - x$	3	0.3739	0.7161
30	$-198759409x^2 - 444389792x + 148727824$	[0, -1, 1, 1]	$-1/4x^2 - 1/2x - 1/4$	0	0.1992	0.2614
31	$245630383x^2 - 745006051x + 198759409$	[1, -14, 4, 3]	$-x$	1	0.1655	0.1953
32	$-990636434x^2 - 538131740x + 245630383$	[1, 2, -1, 1]	$x$	1	0.08651	0.1174
33	$2765034991x^2 - 2348150516x + 452504694$	[1, 4, -2, 1]	$x^2$	1	0.05889	0.1029
34	$5113185507x^2 + 7842600279x - 2765034991$	[3, -10, -2, 1]	$-x$	3	0.1400	0.2170
35	$-2729414772x^2 + 18104591512x - 5113185507$	[1, -10, 4, 3]	$-x$	1	0.2206	0.2432
36	$20834006284x^2 + 3075058809x - 2729414772$	[1, 3, -1, 1]	$x$	1	0.08636	0.08972
37	$17758947475x^2 + 65231433624x - 20834006284$	[1, 3, 1, 1]	$-x$	1	0.2502	0.2943
38	$-47472486149x^2 + 74110848709x - 17758947475$	[1, -3, 1, 1]	$-x$	1	0.09548	0.1401
39	$121583334858x^2 + 124658510972x - 47472486149$	[1, 3, -1, 1]	$x$	1	0.07985	0.1674
40	$-3075176114x^2 + 412222490723x - 121583334858$	[1, 3, 1, 1]	$-x$	1	0.2581	0.2806



41	$-415297666837x^2 + 112357806516x + 3075176114$	$[1, -3, 1, 1]$	$-x$
42	$942953140190x^2 + 1136610370109x - 418372842951$	$[1, 3, -2, 1]$	$x - 1$
43	$527655473353x^2 + 1248968176625x - 415297666837$	$[0, 1, 1, 1]$	$-1/4x^2 - 1/2x - 1/4$
44	$-721312703272x^2 + 1998264086896x - 527655473353$	$[1, 4, 1, 1]$	$-x$
45	$2719576790168x^2 + 1636282636463x - 721312703272$	$[1, 2, -1, 1]$	$x$
46	$-7796748920071x^2 + 5969459251283x - 1083294153705$	$[1, 4, -2, 1]$	$x^2$
47	$-21562957091425x^2 - 16337493355225x + 6713454766366$	$[3, -10, -1, 1]$	$1 - x$
48	$-13766208171354x^2 - 22306952606508x + 7796748920071$	$[0, -1, 1, 1]$	$-1/4x^2 - 1/2x - 1/4$
49	$8540744435154x^2 - 49095373434133x + 13766208171354$	$[1, -14, 4, 3]$	$-x$
50	$-57636117869287x^2 - 11856025134108x + 8540744435154$	$[1, 2, -1, 1]$	$x$
51	$-45780092735179x^2 - 181449098043015x + 57636117869287$	$[1, 3, 1, 1]$	$-x$
52	$135669005307836x^2 - 194976396074824x + 45780092735179$	$[1, -3, 1, 1]$	$-x$
53	$-330645401382660x^2 - 361226923188329x + 135669005307836$	$[1, 3, -1, 1]$	$x$
54	$30581521805669x^2 - 1127605209455816x + 330645401382660$	$[1, 3, 1, 1]$	$-x$
55	$1158186731261485x^2 - 238900835965653x - 30581521805669$	$[1, -3, 1, 1]$	$-x$
56	$-2555274298488623x^2 - 3266240879624471x + 1188768253067154$	$[1, 3, -2, 1]$	$x - 1$
57	$-1397087567227138x^2 - 3505141715590124x + 1158186731261485$	$[0, 1, 1, 1]$	$-1/4x^2 - 1/2x - 1/4$
58	$2108054148362986x^2 - 5349449432942899x + 1397087567227138$	$[1, 4, 1, 1]$	$-x$
59	$-7457503581305885x^2 - 4927074877861820x + 2108054148362986$	$[1, 2, -1, 1]$	$x$
60	$21950136188836576x^2 - 15048789691638080x + 2530428703444065$	$[1, 4, -2, 1]$	$x^2$
61	$58949062069311232x^2 + 48271190171427583x - 19419707485392511$	$[3, -10, -1, 1]$	$1 - x$
62	$36998925880474656x^2 + 63319979863065663x - 21950136188836576$	$[0, -1, 1, 1]$	$-1/4x^2 - 1/2x - 1/4$
63	$-26321053982591007x^2 + 132946913830260544x - 36998925880474656$	$[1, -14, 4, 3]$	$-x$
64	$159267967812851551x^2 + 41964236067298365x - 26321053982591007$	$[1, 2, -1, 1]$	$x$
65	$117303731745553186x^2 + 504124957421145660x - 159267967812851551$	$[1, 3, 1, 1]$	$-x$
66	$-386821225675592474x^2 + 511179163049511109x - 117303731745553186$	$[1, -3, 1, 1]$	$-x$
67	$898000388725103583x^2 + 1043159945281224236x - 386821225675592474$	$[1, 3, -1, 1]$	$x$
68	$-145159556556120653x^2 + 3080822391850903223x - 898000388725103583$	$[1, 3, 1, 1]$	$-x$
69	$-3225981948407023876x^2 + 462521719056741624x + 145159556556120653$	$[1, -3, 1, 1]$	$-x$
70	$6914485615870789376x^2 + 9360583682720450657x - 3371141504963144529$	$[1, 3, -2, 1]$	$x - 1$
71	$3688503667463765500x^2 + 9823105401777192281x - 3225981948407023876$	$[0, 1, 1, 1]$	$-1/4x^2 - 1/2x - 1/4$
72	$-6134601734313426781x^2 + 14291492950798320376x - 3688503667463765500$	$[1, 4, 1, 1]$	$-x$
73	$20426094685111747157x^2 + 14715301535476514843x - 6134601734313426781$	$[1, 2, -1, 1]$	$x$
74	$-61702092640013435938x^2 + 37558474134017444099x - 5710793149635232314$	$[1, 4, -2, 1]$	$x^2$
75	$-160962659414044315975x^2 - 141837010636387631401x + 55991299490378203624$	$[3, -10, -1, 1]$	$1 - x$
76	$-99260566774030880037x^2 - 179395484770405075500x + 61702092640013435938$	$[0, -1, 1, 1]$	$-1/4x^2 - 1/2x - 1/4$
77	$80134917996374195463x^2 - 359483792962106076049x + 99260566774030880037$	$[1, -14, 4, 3]$	$-x$
78	$-439618710958480271512x^2 - 141144187215091706352x + 80134917996374195463$	$[1, 2, -1, 1]$	$x$
79	$1100516527128426444839x^2 - 1335042282188645966992x + 298474523743388565160$	$[1, 4, -2, 1]$	$x^2$
80	$2435558809317072411831x^2 + 3003075057641890769357x - 1100516527128426444839$	$[3, -10, -2, 1]$	$-x$

Number:  $\xi = .8637\dots$  Equation:  $x^3 + 2x^2 + x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.1177	0.2354
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	-1	0.07430	0.1115
3	$4x^2 - 3$	[1, 6, -3, 1]	$-x$	-1	0.2567	0.4011
4	$5x^2 - 2x - 2$	[0, 1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.06329	0.08355
5	$-12x^2 - 7x + 15$	[1, 3, -4, 1]	$x$	1	0.4920	0.9140
6	$-17x^2 - 5x + 17$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.09972	0.2081
7	$39x^2 - 36x + 2$	[2, 11, 2, 1]	$x^2 + x - 2$	2	0.2048	0.3799
8	$-46x^2 - 39x + 68$	[1, 7, 1, 2]	$-1/5x^2 - 1/5$	1	0.2175	0.3885
9	$107x^2 - 38x - 47$	[1, 2, -1, 1]	$x^2 + x - 1$	1	0.3283	0.4330
10	$54x^2 - 152x + 91$	[1, 2, 1, 1]	$-2/5x^2 - 3/5x + 2/5$	1	0.2760	0.4098
11	$-99x^2 - 153x + 206$	[1, -1, 1, 1]	$-1/3x^2 - 1/3x$	1	0.2720	0.4849
12	$-45x^2 - 305x + 297$	[0, 1, 1, 1]	$-x$	0	0.5150	1.015
13	$314x^2 - 189x - 71$	[1, 2, -1, 1]	$1/3x^2 - 1/3x + 1/3$	-1	0.1605	0.2269
14	$-144x^2 - 458x + 503$	[1, 1, 0, 1]	$-1/3x^2 - 1/3x$	-1	0.2210	0.4224
15	$170x^2 - 647x + 432$	[0, 1, 1, 1]	$-x$	0	0.3159	0.4785
16	$-987x^2 + 262x + 510$	[1, -3, 0, 1]	$x$	1	0.6349	0.8491
17	$26x^2 - 1105x + 935$	[1, 1, 0, 1]	$2/9x^2 + 1/9x - 4/9$	1	0.1454	0.2496
18	$1157x^2 - 909x - 78$	[1, -1, 0, 1]	$-x$	1	0.1377	0.2233
19	$1183x^2 - 2014x + 857$	[0, 1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.06583	0.1005
20	$-4380x^2 - 326x + 3549$	[1, 3, -3, 1]	$x$	-1	0.2689	0.4469
21	$-5563x^2 + 1688x + 2692$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.06845	0.09078
22	$-12814x^2 - 8255x + 16689$	[1, 3, 4, 1]	$-x$	-1	0.5321	0.9759
23	$18377x^2 + 6567x - 19381$	[0, -1, -1, 1]	$1/3x^2 + 2/3x - 2/3$	0	0.1132	0.2280
24	$-25948x^2 + 40993x - 16049$	[2, 10, -3, 1]	$x^2 + x - 1$	-2	0.3089	0.4799
25	$-44325x^2 + 34426x + 3332$	[0, -1, 1, 1]	$-1/5x^2 - 4/5x + 1/5$	0	0.2312	0.3719
26	$-48564x^2 - 44325x + 74512$	[1, -6, -1, 2]	$1/5x^2 + 1/5$	-1	0.2281	0.4057
27	$-118837x^2 + 31094x + 61795$	[1, 1, 1, 1]	$-x^2 - x + 1$	-1	0.3538	0.4736
28	$-66034x^2 + 154170x - 83897$	[1, -2, 1, 1]	$-2/5x^2 - 3/5x + 2/5$	-1	0.2481	0.3670
29	$-101367x^2 - 167401x + 220204$	[1, 1, -1, 1]	$1/3x^2 + 1/3x$	-1	0.2715	0.4860
30	$-35333x^2 - 321571x + 304101$	[0, -1, 1, 1]	$-x$	0	0.5001	0.9535
31	$-250905x^2 + 339434x - 105999$	[1, 2, 0, 1]	$x$	-1	0.4813	0.7912
32	$-352272x^2 + 172033x + 114205$	[1, 0, 1, 1]	$-1/9x^2 - 5/9x + 2/9$	-1	0.1765	0.2372
33	$-136700x^2 - 488972x + 524305$	[1, -1, 1, 1]	$1/3x^2 + 1/3x$	-1	0.2098	0.4066
34	$215572x^2 - 661005x + 410100$	[0, -1, 1, 1]	$-x$	0	0.2880	0.4295
35	$-1092149x^2 + 194528x + 646716$	[1, 2, 1, 1]	$x$	-1	0.6791	0.9388
36	$78872x^2 - 1149977x + 934405$	[1, 1, 0, 1]	$2/9x^2 + 1/9x - 4/9$	-1	0.1376	0.2290
37	$1307721x^2 - 855533x - 236616$	[1, -1, 0, 1]	$-x$	-1	0.1536	0.2244
38	$1386593x^2 - 2005510x + 697789$	[0, 1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.05702	0.09118
39	$-4778696x^2 - 688804x + 4159779$	[1, 3, -3, 1]	$x$	1	0.2796	0.4973
40	$-6165289x^2 + 1316706x + 3461990$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	0	0.07345	0.09996

41	$-13647284x^2 - 9627279x + 18495867$	$[1, 3, 4, 1]$	$-x$	1	0.5709	1.036
42	$19812573x^2 + 8310573x - 21957857$	$[0, -1, -1, 1]$	$1/3x^2 + 2/3x - 2/3$	0	0.1270	0.2485
43	$-30268430x^2 + 40671289x - 12548143$	$[2, 10, -3, 1]$	$x^2 + x - 1$	2	0.2656	0.4380
44	$-50081003x^2 + 32360716x + 9409714$	$[0, -1, 1, 1]$	$-1/5x^2 - 4/5x + 1/5$	0	0.2578	0.3746
45	$-80349433x^2 + 73032005x - 3138429$	$[0, -1, 2, 1]$	$-2/5x^2 - x + 3/5$	0	0.3730	0.6818
46	$-51127146x^2 - 50081003x + 81395576$	$[1, -6, -1, 2]$	$-1/3 - 1/3x$	-1	0.2378	0.4217
47	$-131476579x^2 + 22951002x + 78257147$	$[0, 1, 1, 1]$	$-x^2 - x + 1$	0	0.3783	0.5239
48	$-79303290x^2 + 155473724x - 75124291$	$[1, 1, -1, 1]$	$-2/5x^2 - 3/5x + 2/5$	1	0.2204	0.3292
49	$-103300435x^2 - 182603725x + 234777014$	$[1, 1, -1, 1]$	$1/3x^2 + 1/3x$	1	0.2697	0.4850
50	$-290083159x^2 + 333898450x - 71991435$	$[1, 2, 0, 1]$	$-x^2$	1	0.4069	0.7329
51	$-393383594x^2 + 151294725x + 162785579$	$[0, 1, 1, 1]$	$-1/9x^2 - 5/9x + 2/9$	0	0.1923	0.2537
52	$127297580x^2 + 520681174x - 544678319$	$[1, -2, 0, 1]$	$-1/3x^2 - 1/3x$	-1	0.1978	0.3894
53	$-266086014x^2 + 671975899x - 381892740$	$[0, 1, 1, 1]$	$-x$	0	0.2600	0.3848
54	$138788434x^2 - 1192657073x + 926571059$	$[0, -1, -2, 1]$	$1/3x^2 + 2/3x - 2/3$	0	0.1293	0.2090
55	$-1470233941x^2 + 787782625x + 416365302$	$[1, 3, 0, 1]$	$x$	1	0.1697	0.2320
56	$-1609022375x^2 + 1980439698x - 510205757$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 2/3$	0	0.04858	0.08387
57	$5198484448x^2 + 1098816618x - 4827067125$	$[1, -3, -4, 1]$	$x$	1	0.2891	0.5513
58	$6807506823x^2 - 881623080x - 4316861368$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 2/3$	0	0.07823	0.1110
59	$14496636726x^2 + 11124368191x - 20422520469$	$[1, 3, 4, 1]$	$-x$	1	0.6081	1.095
60	$3435238288x^2 - 24676412084x + 18750528341$	$[1, 4, -2, 1]$	$-1/3x^2 + 1/3x + 2/3$	1	0.6267	1.001
61	$21304143549x^2 + 10242745111x - 24739381837$	$[1, 1, 0, 1]$	$1/5x^2 - 1/5x - 1/5$	1	0.1408	0.2694
62	$-34982126948x^2 + 39991702137x - 8444813477$	$[1, -2, -2, 1]$	$x^2 + x - 1$	1	0.2244	0.4060
63	$-56286270497x^2 + 29748957026x + 16294568360$	$[0, -1, 1, 1]$	$-1/5x^2 - 4/5x + 1/5$	0	0.2845	0.3878
64	$-2616584961x^2 + 86035227523x - 72357244124$	$[1, 3, 2, 1]$	$-1/5x^2 + 4/5$	1	0.4326	0.7390
65	$53669685536x^2 + 56286270497x - 88651812484$	$[0, -1, 1, 1]$	$-1/3x^2 - 1/3x$	0	0.2464	0.4361
66	$-144938082981x^2 + 13454388666x + 96501567367$	$[1, 2, -1, 1]$	$x^2 + x - 1$	1	0.4016	0.5831
67	$-93884982406x^2 + 155775886686x - 64507489241$	$[1, 1, 1, 1]$	$-2/5x^2 - 3/5x + 2/5$	1	0.1933	0.2966
68	$104722786111x^2 + 198607768517x - 249660869092$	$[1, -1, 1, 1]$	$-1/3x^2 - 1/3x$	1	0.2664	0.4819
69	$-332708047793x^2 + 325006162038x - 32513411115$	$[1, 2, 0, 1]$	$x^2$	1	0.3529	0.6931
70	$-437430833904x^2 + 126398393521x + 217147457977$	$[0, -1, 1, 1]$	$-1/9x^2 - 5/9x + 2/9$	0	0.2077	0.2763
71	$115560589816x^2 + 552991423720x - 563829227425$	$[1, 2, 0, 1]$	$-1/3x^2 - 1/3x$	1	0.1852	0.3711
72	$-321870244088x^2 + 679389817241x - 346681769448$	$[0, 1, 1, 1]$	$-x$	0	0.2322	0.3448
73	$-206309654272x^2 + 1232381240961x - 910510996873$	$[0, 1, 2, 1]$	$-1/3x^2 - 2/3x + 2/3$	0	0.1206	0.1898
74	$-1645000549505x^2 + 704201342601x + 618928962816$	$[1, 3, 0, 1]$	$-x$	1	0.1856	0.2458
75	$-1851310203777x^2 + 1936582583562x - 291582034057$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x + 2/3$	0	0.04058	0.07859
76	$5639202991116x^2 + 1559728169720x - 5553930611331$	$[1, 3, -4, 1]$	$x$	-1	0.2972	0.6082
77	$7490513194893x^2 - 376854413842x - 5262348577274$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 2/3$	0	0.08275	0.1238
78	$15357880803628x^2 + 12752861772167x - 22471539584679$	$[1, 3, 4, 1]$	$-x$	-1	0.6432	1.151
79	$4885494163432x^2 - 25453413029982x + 18339754248931$	$[1, 4, -2, 1]$	$-1/3x^2 + 1/3x + 2/3$	-1	0.5825	0.9064
80	$12376007358325x^2 - 25830267443824x + 13077405671657$	$[1, 0, 1, 1]$	$-1/5x^2 - 4/5x + 1/5$	-1	0.3841	0.5707

Number:  $\xi = .7430\dots$  Equation:  $x^3 + 2x^2 + 2x - 3 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.1910	0.3819
2	$-x^2 - 2x + 2$	$[2, -2, -1, 1]$	$-1/6x^2 + 1/6x + 1/6$	-2	0.1516	0.3412
3	$4x^2 - 3x$	$[1, 3, 0, 1]$	$x^2$	-2	0.3348	0.5231
4	$5x^2 + 3x - 5$	$[1, -5, 1, 2]$	$1/9x^2 - 1/9x + 5/9$	-1	0.2795	0.6597
5	$x^2 + 6x - 5$	$[0, -1, 1, 1]$	$-1/2 - 1/2x$	0	0.3508	0.6041
6	$-4x^2 + 7x - 3$	$[1, -2, 1, 1]$	$-x$	-1	0.3547	0.5357
7	$9x^2 - 4x - 2$	$[1, 0, -1, 1]$	$1/6x^2 + 5/6x - 1/6$	-1	0.3193	0.3981
8	$6x^2 + 9x - 10$	$[1, 1, 1, 1]$	$1/7x^2 + 2/7$	-1	0.1437	0.3118
9	$-22x^2 + 15x + 1$	$[1, -2, 0, 1]$	$x^2 - 1$	-1	0.3116	0.4571
10	$-25x^2 - 7x + 19$	$[1, -2, 1, 1]$	$-1/8x^2 - 5/8x - 1/8$	-1	0.2649	0.4387
11	$9x^2 + 31x - 28$	$[1, 1, -1, 1]$	$1/2x + 1/2$	-1	0.3549	0.6744
12	$-38x^2 + 39x - 8$	$[1, 1, 1, 1]$	$1/2x^2 - 1/2x + 1/2$	-1	0.2272	0.4526
13	$-34x^2 - 38x + 47$	$[1, -1, 0, 1]$	$1/7x^2 + 2/7$	-1	0.1203	0.2619
14	$-30x^2 - 115x + 102$	$[0, -1, 2, 1]$	$-x$	0	0.5352	0.9926
15	$119x^2 - 9x - 59$	$[1, -2, -1, 1]$	$1/3x^2 - 1/3x - 1/3$	-1	0.2275	0.2847
16	$-64x^2 - 153x + 149$	$[1, 1, 0, 1]$	$1/2x + 1/2$	-1	0.3277	0.6959
17	$-183x^2 - 144x + 208$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	0	0.08933	0.2013
18	$535x^2 - 275x - 91$	$[2, 5, 0, 1]$	$x^2 + x - 1$	-2	0.1743	0.2254
19	$-405x^2 - 718x + 757$	$[1, 7, 1, 2]$	$1/2x + 1/2$	-1	0.3041	0.6648
20	$-940x^2 - 443x + 848$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	0	0.06916	0.1408
21	$-2231x^2 + 2523x - 643$	$[2, -5, -2, 1]$	$-x^2 - x + 1$	-2	0.1469	0.2714
22	$-2377x^2 - 3171x + 3668$	$[1, 7, -1, 2]$	$-1/2 - 1/2x$	-1	0.2707	0.5866
23	$-4608x^2 - 648x + 3025$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	0	0.06300	0.09139
24	$8568x^2 + 12241x - 13824$	$[1, 0, -4, 1]$	$x$	1	0.4212	0.9134
25	$-13176x^2 - 12889x + 16849$	$[0, 1, -1, 1]$	$1/3x^2 + 2/3x - 1/3$	0	0.2165	0.4756
26	$-21457x^2 + 5182x + 7994$	$[1, 6, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	-1	0.05178	0.06199
27	$48096x^2 + 50908x - 64371$	$[1, -3, 0, 1]$	$x$	-1	0.3462	0.7561
28	$69553x^2 + 45726x - 72365$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.1514	0.3517
29	$-93822x^2 + 69111x + 442$	$[1, 6, 1, 1]$	$1/2x^2 + 1/2x - 1/2$	-1	0.03753	0.05789
30	$256755x^2 + 188086x - 281466$	$[1, 3, 0, 1]$	$x$	-1	0.2509	0.5718
31	$350577x^2 + 118975x - 281908$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.1347	0.2373
32	$375730x^2 - 557026x + 206449$	$[1, -6, -1, 1]$	$-1/2x^2 - 1/2x + 1/2$	-1	0.05014	0.07984
33	$1308486x^2 + 545011x - 1127190$	$[1, 3, 0, 1]$	$-x$	-1	0.2056	0.3938
34	$1684216x^2 - 12015x - 920741$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.1178	0.1530
35	$1296471x^2 - 3768192x + 2083976$	$[1, 6, -1, 1]$	$-1/2x^2 - 1/2x + 1/2$	1	0.08698	0.1239
36	$6361134x^2 + 508966x - 3889413$	$[1, 3, 0, 1]$	$-x$	1	0.1842	0.2542
37	$7657605x^2 - 3259226x - 1805437$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x + 1/3$	0	0.09233	0.1142
38	$21676344x^2 - 6009486x - 7500287$	$[0, 2, 3, 1]$	$-1/2x^2 - 3/2x + 1/2$	0	0.6588	0.7883
39	$-18574436x^2 - 17120647x + 22972815$	$[1, 4, -4, 1]$	$-2/13x^2 - 1/13x - \frac{9}{13}$	1	0.6174	1.364
40	$3101908x^2 - 23130133x + 15472528$	$[0, 1, 1, 1]$	$1/6x^2 - 1/6x - 1/6$	0	0.1242	0.1821

41	$29333949x^2 - 9268712x - 9305724$	[1, 1, 0, 1]	$-x$	-1	0.1485	0.1782
42	$32435857x^2 - 32398845x + 6166804$	[0, 1, 1, 1]	$-1/3x^2 - 2/3x + 1/3$	0	0.06280	0.1277
43	$94205663x^2 - 74066402x + 3027884$	[0, 2, 3, 1]	$-1/2x^2 - 3/2x + 1/2$	0	0.4717	0.7637
44	$-97270559x^2 - 58704910x + 97307571$	[1, 3, -3, 1]	$-2/13x^2 - 1/13x - \frac{9}{13}$	-1	0.4199	0.9923
45	$126641520x^2 - 106465247x + 9194688$	[1, 1, 0, 1]	$1/2x^2 + 1/2x - 1/2$	-1	0.1049	0.1796
46	$123576624x^2 - 239236559x + 109530143$	[1, 1, 1, 1]	$-1/3x^2 - 2/3x + 1/3$	-1	0.1295	0.1912
47	$-486389807x^2 - 137623105x + 370729872$	[1, -6, 3, 1]	$x$	-1	0.3977	0.6606
48	$-609966431x^2 + 101613454x + 261199729$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x + 1/3$	0	0.2164	0.2621
49	$-112595039x^2 - 722561470x + 598984846$	[1, 2, 1, 1]	$1/4x^2 + 1/4x + 1/4$	-1	0.1742	0.2982
50	$497371392x^2 - 824174924x + 337785117$	[0, -1, 1, 1]	$-x$	0	0.1684	0.2580
51	$-384776353x^2 + 1546736394x - 936769963$	[0, 1, -2, 1]	$1/3x^2 + 2/3x - 1/3$	0	0.2052	0.2932
52	$-2316289100x^2 + 167217257x + 1154329059$	[1, 3, 0, 1]	$-x$	-1	0.3419	0.4286
53	$-2701065453x^2 + 1713953651x + 217559096$	[0, 1, 1, 1]	$-1/3x^2 - 2/3x + 1/3$	0	0.1608	0.2266
54	$-1049365002x^2 - 3750430455x + 3365654102$	[1, -2, 1, 1]	$1/4x^2 + 1/4x + 1/4$	1	0.1779	0.3351
55	$1651700451x^2 - 5464384106x + 3148095006$	[0, -1, 1, 1]	$-x$	0	0.2806	0.3994
56	$-8767785008x^2 - 155305896x + 4955101353$	[1, 2, 1, 1]	$x$	1	0.5367	0.7083
57	$602335449x^2 - 9214814561x + 6513749108$	[1, 1, 0, 1]	$1/9x^2 - 1/9x - 4/9$	1	0.2761	0.4152
58	$10419485459x^2 - 5309078210x - 1807006347$	[1, -1, 0, 1]	$-x$	1	0.2622	0.3382
59	$-11021820908x^2 + 14523892771x - 4706742761$	[0, -1, -1, 1]	$1/3x^2 + 2/3x - 1/3$	0	0.1763	0.2963
60	$-7563114110x^2 - 18584935018x + 17982599569$	[1, 2, 0, 1]	$1/4x^2 + 1/4x + 1/4$	1	0.1656	0.3481
61	$3458706798x^2 - 33108827789x + 22689342330$	[0, -1, 1, 1]	$-x$	0	0.3905	0.5781
62	$40026241385x^2 - 15771928734x - 10376120394$	[1, -2, -1, 1]	$-x$	1	0.4240	0.5183
63	$-47589355495x^2 - 2813006284x + 28358719963$	[1, 0, -1, 1]	$2/9x^2 + \frac{7}{9}x + 1/9$	1	0.4865	0.6609
64	$43484948183x^2 - 48880756523x + 12313221936$	[1, 1, 0, 1]	$1/4x^2 + 1/4x - 3/4$	1	0.2188	0.4058
65	$87615596880x^2 - 12958922450x - 38734840357$	[1, -1, 0, 1]	$-1/6x^2 - 5/6x + 1/6$	1	0.3827	0.4659
66	$-48235056009x^2 - 87615596880x + 91720004192$	[1, 2, -1, 1]	$-1/7x^2 - 2/7$	1	0.1529	0.3347
67	$170481085934x^2 - 162414198303x + 26563545414$	[1, 2, 1, 1]	$x^2$	1	0.2916	0.5633
68	$218716141943x^2 - 74798601423x - 65156458778$	[0, -1, 1, 1]	$-2/9x^2 - \frac{7}{9}x - 1/9$	0	0.3895	0.4696
69	$-227570657081x^2 - 113391514787x + 209861626805$	[1, 3, -1, 1]	$1/8x^2 + 5/8x + 1/8$	1	0.2776	0.5826
70	$-57089571147x^2 - 275805713090x + 236425172219$	[1, 0, 1, 1]	$-1/2 - 1/2x$	1	0.3554	0.6317
71	$161626570796x^2 - 350604314513x + 171268713441$	[1, 0, 1, 1]	$-x$	1	0.4267	0.6191
72	$-389197227877x^2 + 237212799726x + 38592913364$	[1, 0, -1, 1]	$1/6x^2 + 5/6x - 1/6$	1	0.2863	0.3954
73	$-284660228228x^2 - 389197227877x + 446286799024$	[1, 1, 1, 1]	$1/7x^2 + 2/7$	1	0.1372	0.2974
74	$940021026550x^2 - 825029913965x + 94082886713$	[1, -2, 0, 1]	$x^2 - 1$	1	0.2727	0.4856
75	$1120144255129x^2 + 190577341515x - 759897797971$	[1, -2, 1, 1]	$-1/8x^2 - 5/8x - 1/8$	1	0.2550	0.3797
76	$-464783456807x^2 - 1404804483357x + 1300267483708$	[1, 1, -1, 1]	$1/2x + 1/2$	1	0.3495	0.6871
77	$1595381824872x^2 - 2039257055807x + 634452572450$	[1, 1, 1, 1]	$1/2x^2 - 1/2x + 1/2$	1	0.2979	0.5091
78	$1584927711936x^2 + 1595381824872x - 2060165281679$	[1, -1, 0, 1]	$1/7x^2 + 2/7$	1	0.1108	0.2429
79	$1574473599000x^2 + 5230020705551x - 4754783135808$	[0, -1, 2, 1]	$-x$	0	0.5307	1.017
80	$-5240474818487x^2 + 1078327803385x + 2091527620487$	[1, -2, -1, 1]	$1/3x^2 - 1/3x - 1/3$	1	0.2115	0.2542

Number:  $\xi = 0.6398\dots$  Equation:  $.6398, x^3 + 2x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1/3x - 1/3$	-1	0.04915	0.1474
2	$-4x^2 + x + 1$	$[2, -3, 1, 1]$	$-x^2 - x + 1$	-2	0.03865	0.04348
3	$-13x^2 - 12x + 13$	$[3, 25, 1, 2]$	$1 - x$	-3	0.1470	0.4194
4	$-21x^2 + 15x - 1$	$[1, 22, -2, 3]$	$-1/3x^2 + 1$	-1	0.3314	0.5012
5	$22x^2 + 25x - 25$	$[1, -2, 0, 1]$	$1/11x^2 + \frac{7}{11}x + \frac{5}{11}$	-1	0.4221	1.171
6	$8x^2 - 27x + 14$	$[1, -1, 0, 1]$	$-1/7x^2 + 1/7x + 1/7$	-1	0.08655	0.1174
7	$-43x^2 - 10x + 24$	$[1, -1, 0, 1]$	$x$	-1	0.1404	0.1918
8	$-51x^2 + 17x + 10$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.1112	0.1279
9	$-94x^2 + 7x + 34$	$[0, -1, 2, 1]$	$-1/3x^2 - x$	0	0.2933	0.3333
10	$-145x^2 + 24x + 44$	$[0, -2, 3, 1]$	$-2/7x^2 - 5/7x + 2/7$	0	0.2012	0.2252
11	$25x^2 + 170x - 119$	$[1, -5, -1, 1]$	$-1/5x^2 - 1/5x - 2/5$	-1	0.1686	0.2549
12	$120x^2 - 194x + 75$	$[0, -1, -1, 1]$	$x$	0	0.1405	0.2153
13	$-95x^2 + 364x - 194$	$[0, 1, 2, 1]$	$1/3x^2 + 2/3x$	0	0.2785	0.3765
14	$-554x^2 - 91x + 285$	$[1, 3, -1, 1]$	$-x$	1	0.4127	0.5331
15	$-339x^2 - 649x + 554$	$[1, -1, 1, 1]$	$-1/3x$	1	0.1208	0.2418
16	$-1513x^2 + 1104x - 87$	$[2, 3, -1, 1]$	$-x^2$	2	0.2687	0.4127
17	$-1881x^2 - 1116x + 1484$	$[1, 5, 1, 2]$	$1/3 - 1/3x$	1	0.04987	0.09847
18	$-6362x^2 + 5338x - 811$	$[2, 5, -1, 1]$	$-x^2 - x + 1$	2	0.02804	0.04823
19	$18062x^2 + 18275x - 19086$	$[3, -25, 1, 2]$	$x$	3	0.1615	0.4541
20	$24424x^2 + 12937x - 18275$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.1489	0.2740
21	$42486x^2 + 31212x - 37361$	$[0, -1, 2, 1]$	$-1/3x^2 - x$	0	0.3496	0.8087
22	$-6575x^2 + 60335x - 35911$	$[1, 17, 5, 3]$	$1/7x^2 - 1/7x - 1/7$	-1	0.1239	0.1693
23	$73485x^2 - 16186x - 19725$	$[1, 1, -1, 1]$	$x$	-1	0.1176	0.1318
24	$80060x^2 - 76521x + 16186$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.07861	0.1536
25	$153545x^2 - 92707x - 3539$	$[0, -1, 2, 1]$	$-1/3x^2 - x$	0	0.2244	0.3064
26	$233605x^2 - 169228x + 12647$	$[0, -2, 3, 1]$	$-2/7x^2 - 5/7x + 2/7$	0	0.1497	0.2288
27	$83096x^2 + 316701x - 236641$	$[1, 5, 1, 1]$	$1/5x^2 + 1/5x + 2/5$	-1	0.1678	0.2731
28	$-150509x^2 + 485929x - 249288$	$[0, -1, 1, 1]$	$-x$	0	0.2528	0.3436
29	$786947x^2 + 202239x - 451527$	$[1, 2, 2, 1]$	$x$	-1	0.4242	0.5919
30	$-67413x^2 + 802630x - 485929$	$[1, 1, 0, 1]$	$-2/3 - 1/3x$	-1	0.3883	0.5334
31	$-937456x^2 + 283690x + 202239$	$[1, -1, 0, 1]$	$-x$	-1	0.3389	0.3857
32	$719534x^2 + 1004869x - 937456$	$[1, 1, 0, 1]$	$1/3x$	-1	0.08305	0.1979
33	$-2947194x^2 + 2456330x - 365141$	$[2, 3, 0, 1]$	$x^2 - 1$	-2	0.4220	0.7215
34	$-3381393x^2 - 639728x + 1793461$	$[1, -4, 1, 2]$	$-1/15x^2 - 2/5x + 1/5$	-1	0.04622	0.06087
35	$6123058x^2 + 11937640x - 10144179$	$[2, 3, -4, 1]$	$x$	-2	0.3686	0.7317
36	$9504451x^2 + 12577368x - 11937640$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.2303	0.5693
37	$-9195975x^2 + 15935985x - 6431534$	$[1, 10, 3, 2]$	$1/3x^2$	-1	0.05045	0.07547
38	$34327935x^2 + 21156391x - 27587925$	$[1, 2, -1, 1]$	$x$	-1	0.1498	0.3034
39	$43523910x^2 + 5220406x - 21156391$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.1356	0.1695
40	$77851845x^2 + 26376797x - 48744316$	$[0, -1, 2, 1]$	$-1/3x^2 - x$	0	0.3367	0.5073

41	$117400186x^2 - 93754121x + 11926707$	$[1, -8, 1, 1]$	$-3/7x^2 - 4/7x + 3/7$	1	0.08611	0.14
42	$-113424617x^2 + 219105445x - 93754121$	$[1, 1, -2, 1]$	$1/3x^2 + 2/3x$	1	0.1688	0.24
43	$-230824803x^2 + 312859566x - 105680828$	$[0, -1, 1, 1]$	$-1/3x^2 - x$	0	0.2672	0.44
44	$445954679x^2 + 246519730x - 340273851$	$[1, 7, 4, 1]$	$-1/7x^2 + 1/7x - 6/7$	1	0.4475	0.84
45	$-344249420x^2 + 531965011x - 199434949$	$[1, 1, 0, 1]$	$1/3x^2 + 1/3x$	1	0.2227	0.34
46	$215129876x^2 + 559379296x - 445954679$	$[1, 1, 0, 1]$	$-1/5x^2 - 1/5x - 2/5$	1	0.1502	0.26
47	$-129119544x^2 + 1091344307x - 645389628$	$[0, 1, 1, 1]$	$-x$	0	0.3657	0.49
48	$1349583395x^2 - 258030996x - 387358632$	$[1, -2, 1, 1]$	$x$	-1	0.3578	0.40
49	$1435593727x^2 + 1392692607x - 1478702939$	$[1, 1, 1, 1]$	$1/3 - 1/3x$	-1	0.05157	0.14
50	$-5742583000x^2 + 1564088995x + 1349999579$	$[2, -3, -1, 1]$	$x^2 + x - 1$	-2	0.03823	0.04
51	$-13049254995x^2 - 18577748579x + 17227749000$	$[3, -25, -1, 2]$	$-x$	-3	0.2560	0.60
52	$-18791837995x^2 - 17013659584x + 18577748579$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.1475	0.41
53	$30062914579x^2 - 22348194817x + 1992267827$	$[1, -20, 2, 3]$	$1/3x^2 - 1$	1	0.3259	0.50
54	$-31841092990x^2 - 35591408163x + 35805497579$	$[1, 1, 0, 1]$	$1/11x^2 + \frac{7}{11}x + \frac{5}{11}$	1	0.4155	1.1
55	$11271076584x^2 - 39361854401x + 20570016406$	$[1, 1, 0, 1]$	$1/7x^2 - 1/7x - 1/7$	1	0.08828	0.11
56	$61904007569x^2 + 13243213346x - 33813229752$	$[1, -1, 0, 1]$	$-x$	1	0.1397	0.18
57	$73175084153x^2 - 26118641055x - 13243213346$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.1099	0.12
58	$-135079091722x^2 + 12875427709x + 47056443098$	$[0, -1, -2, 1]$	$1/3x^2 + x$	0	0.2907	0.32
59	$208254175875x^2 - 38994068764x - 60299656444$	$[0, 2, 3, 1]$	$2/7x^2 + 5/7x - 2/7$	0	0.1992	0.22
60	$-37389717639x^2 - 245643893514x + 172468809361$	$[1, 5, -1, 1]$	$-1/5x^2 - 1/5x - 2/5$	1	0.1690	0.25
61	$170864458236x^2 - 284637962278x + 112169152917$	$[0, 1, 1, 1]$	$-x$	0	0.1452	0.22
62	$133474740597x^2 - 530281855792x + 284637962278$	$[0, 1, 2, 1]$	$-1/3x^2 - 2/3x$	0	0.2836	0.38
63	$-797231336986x^2 - 115786259513x + 400424221791$	$[1, -3, 1, 1]$	$x$	1	0.4102	0.52
64	$-492892138153x^2 - 930706077583x + 797231336986$	$[1, 1, 1, 1]$	$-1/3x$	1	0.1192	0.24
65	$2165751353999x^2 - 1643911010628x + 165234596169$	$[2, -3, 1, 1]$	$x^2$	2	0.2643	0.41
66	$-2713721690875x^2 - 1562702818400x + 2110673155276$	$[1, 5, -1, 2]$	$1/3x - 1/3$	1	0.04981	0.09
67	$-9100819355426x^2 + 7920845716374x - 1342383462149$	$[2, -5, -1, 1]$	$-x^2 - x + 1$	2	0.02754	0.04
68	$-26122484427226x^2 - 25960074604129x + 27302458066278$	$[3, 25, -1, 2]$	$-x$	3	0.1586	0.44
69	$-35223303782652x^2 - 18039228887755x + 25960074604129$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.1486	0.26
70	$-61345788209878x^2 - 43999303491884x + 53262532670407$	$[0, 1, 2, 1]$	$-1/3x^2 - x$	0	0.3498	0.79
71	$-8938409532329x^2 + 87630682460201x - 52407378677549$	$[1, 17, -5, 3]$	$-1/7x^2 + 1/7x + 1/7$	1	0.1255	0.17
72	$-105507501524859x^2 + 25592150080562x + 26815228596987$	$[1, 1, 1, 1]$	$-x$	1	0.1164	0.13
73	$-114445911057188x^2 + 113222832540763x - 25592150080562$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.07709	0.15
74	$-219953412582047x^2 + 138814982621325x + 1223078516425$	$[0, 1, 2, 1]$	$-1/3x^2 - x$	0	0.2210	0.30
75	$-334399323639235x^2 + 252037815162088x - 24369071564137$	$[0, 2, 3, 1]$	$-2/7x^2 - 5/7x + 2/7$	0	0.1473	0.23
76	$-122161242073092x^2 - 456560565712327x + 342114654655139$	$[1, -5, 1, 1]$	$1/5x^2 + 1/5x + 2/5$	-1	0.1674	0.27
77	$212238081566143x^2 - 708598380874415x + 366483726219276$	$[0, -1, 1, 1]$	$-x$	0	0.2580	0.35
78	$-1133074544006701x^2 - 270230518479153x + 636714244698429$	$[1, 2, 2, 1]$	$x$	-1	0.4221	0.57
79	$90076839493051x^2 - 1165158946586742x + 708598380874415$	$[1, 1, 0, 1]$	$-2/3 - 1/3x$	-1	0.3927	0.54
80	$1345312625572844x^2 - 438367862395262x - 270230518479153$	$[1, -1, 0, 1]$	$-x$	-1	0.3350	0.38

Number:  $\xi = .4780\dots$  Equation:  $x^3 + 2x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$-1/2x^2 - x + 1/2$	0	0.08425	0.1053
2	$4x^2 - 4x + 1$	$[1, -4, 4, 1]$	$-1/2x^2 - x + 1/2$	-1	0.03107	0.06408
3	$12x^2 + 11x - 8$	$[2, 21, -8, 1]$	$-x$	-2	0.1336	0.3053
4	$15x^2 - 26x + 9$	$[1, 10, -1, 2]$	$-1/2x^2 + 1/2$	-1	0.2420	0.3516
5	$28x^2 + 18x - 15$	$[1, 2, 0, 1]$	$-1/2x$	-1	0.06708	0.1141
6	$-61x^2 + 71x - 20$	$[1, -3, -1, 1]$	$x^2 + x$	-1	0.3047	0.5538
7	$-89x^2 + 53x - 5$	$[0, -1, 1, 1]$	$-1/4x^2 - 3/4x$	0	0.1990	0.2702
8	$127x^2 + 46x - 51$	$[1, 4, 0, 1]$	$1/5x^2 + 4/5x + 1/5$	-1	0.2545	0.3289
9	$104x^2 + 216x - 127$	$[1, 1, 2, 1]$	$-1/2x$	-1	0.1759	0.2775
10	$-8x^2 + 439x - 208$	$[1, -1, 2, 1]$	$-x$	-1	0.3473	0.4254
11	$455x^2 - 184x - 16$	$[1, 3, -2, 1]$	$x$	-1	0.1783	0.2077
12	$543x^2 + 910x - 559$	$[1, 2, 1, 1]$	$1/4x^2 + 3/4$	-1	0.5757	0.9979
13	$-918x^2 + 807x - 176$	$[1, -2, 0, 1]$	$1/2x^2$	-1	0.06692	0.1211
14	$-2643x^2 - 2578x + 1836$	$[3, -4, 2, 1]$	$-x$	-3	0.2651	0.6454
15	$1748x^2 - 2708x + 895$	$[1, -8, 1, 3]$	$1/4x^2 - 1/4$	-1	0.05369	0.08192
16	$-6204x^2 - 4349x + 3496$	$[1, 2, 0, 1]$	$x$	-1	0.1347	0.2436
17	$-14156x^2 - 5990x + 6097$	$[0, -1, 2, 1]$	$-1/2x^2 - x + 1/2$	0	0.06465	0.08822
18	$40399x^2 - 40723x + 10235$	$[3, 17, -3, 1]$	$x^2 + x - 1$	-3	0.1571	0.3216
19	$-62721x^2 - 7842x + 18077$	$[1, 10, -1, 3]$	$1/5x^2 + 4/5x + 1/5$	-1	0.2340	0.2571
20	$-58800x^2 - 103120x + 62721$	$[1, 2, 2, 1]$	$-1/2x$	-1	0.1512	0.2563
21	$210161x^2 - 161040x + 28960$	$[2, -3, 1, 1]$	$x^2$	-2	0.1434	0.2304
22	$-297921x^2 - 420322x + 268961$	$[1, 4, 0, 1]$	$-1/4x^2 - 3/4$	-2	0.4631	0.8854
23	$-493602x^2 - 20161x + 122401$	$[1, -3, 1, 2]$	$-1/2x^2 - 1/2x$	-1	0.2256	0.2398
24	$405842x^2 - 561201x + 175520$	$[1, 1, -1, 1]$	$1/4x^2 + 1/4x - 1/2$	-1	0.09430	0.1528
25	$-1372885x^2 - 1042006x + 811684$	$[1, 3, 1, 1]$	$x$	-1	0.2697	0.5194
26	$723924x^2 - 1703764x + 648961$	$[1, 3, 0, 1]$	$1/4x^2 - 1/4$	-1	0.08013	0.1062
27	$3151612x^2 + 1522811x - 1447848$	$[1, -2, 0, 1]$	$-x$	-1	0.1311	0.1893
28	$7027148x^2 + 1341858x - 2246735$	$[0, 1, 2, 1]$	$-1/2x^2 - x + 1/2$	0	0.06007	0.06840
29	$-12712438x^2 - 23328179x + 14054296$	$[2, 8, -5, 1]$	$x$	2	0.3164	0.5252
30	$17642889x^2 - 27521573x + 9123845$	$[1, 10, 3, 2]$	$1/2x^2 + 1/2$	1	0.2705	0.4114
31	$30355327x^2 - 4193394x - 4930451$	$[0, -1, 1, 1]$	$-1/5x^2 - 4/5x - 1/5$	0	0.2067	0.2161
32	$32452024x^2 + 47998216x - 30355327$	$[1, -2, 0, 1]$	$-1/2x$	1	0.1235	0.2293
33	$110805567x^2 + 12089855x - 31092384$	$[1, 2, 1, 1]$	$-x^2 - x$	1	0.4649	0.5071
34	$-93899735x^2 + 115621544x - 33811664$	$[1, 3, -2, 1]$	$1/4x^2 + 1/4x - 1/2$	1	0.1637	0.2857
35	$160163423x^2 + 187799470x - 126351759$	$[1, 2, 1, 1]$	$-1/4x^2 - 3/4$	1	0.3486	0.7599
36	$-237157326x^2 + 55533473x + 27636047$	$[1, 2, -1, 1]$	$1/2x^2 + 1/2x$	1	0.1963	0.2098
37	$66263688x^2 + 303421014x - 160163423$	$[1, 1, 0, 1]$	$-1/4x^2 - 1/4x - 1/2$	1	0.2175	0.2884
38	$-170893638x^2 + 358954487x - 132527376$	$[0, 1, 1, 1]$	$-x$	0	0.1455	0.1983
39	$700741763x^2 + 380153538x - 341787276$	$[1, -2, 1, 1]$	$x$	-1	0.2650	0.4060
40	$-275523588x^2 + 1021329988x - 425218175$	$[1, 2, 0, 1]$	$1/4x^2 - 1/4$	-1	0.1086	0.1353



41	$-1572377164x^2 - 401352589x + 551047176$	$[1, -2, 0, 1]$	$-x$	-1	0.1230	0
42	$-3420277916x^2 + 218624810x + 676876177$	$[0, 1, 2, 1]$	$-1/2x^2 - x + 1/2$	0	0.05365	0
43	$10479458558x^2 + 10719085115x - 7517432009$	$[2, 7, -7, 1]$	$x - 1$	2	0.2751	0
44	$7059180642x^2 + 10937709925x - 6840555832$	$[0, 1, 1, 1]$	$-1/4x^2 - 3/4x - 1/2$	0	0.2623	0
45	$-14357987841x^2 + 6361302718x + 239626557$	$[1, 11, 1, 2]$	$1/2x^2 - 1/2$	-1	0.1743	0
46	$17538639200x^2 + 21656795040x - 14357987841$	$[1, 1, 0, 1]$	$1/2x$	-1	0.09479	0
47	$-53553422081x^2 + 8364823039x + 8236311680$	$[1, 3, -1, 1]$	$x^2 + x$	-1	0.4095	0
48	$-13420483360x^2 - 66973905441x + 35077278400$	$[1, -3, -1, 1]$	$1/4x^2 + 1/4x + 1/2$	-1	0.4333	0
49	$71092061281x^2 + 13291972001x - 22594299521$	$[1, -1, 0, 1]$	$1/2x^2 + 1/2$	-1	0.2999	0
50	$-40132938721x^2 + 75338728480x - 26840966720$	$[1, -1, 0, 1]$	$2/5x^2 + 3/5x + 2/5$	-1	0.2621	0
51	$-84512544641x^2 - 80265877442x + 57671577921$	$[1, -1, 0, 1]$	$1/4x^2 + 3/4$	-1	0.2662	0
52	$111225000002x^2 - 62046756479x + 4246667199$	$[1, -1, 0, 1]$	$1/2x^2 + 1/2x$	-1	0.1628	0
53	$44379605920x^2 + 155604605922x - 84512544641$	$[1, -1, 0, 1]$	$1/4x^2 + 1/4x + 1/2$	-1	0.2156	0
54	$-66845394082x^2 + 217651362401x - 88759211840$	$[0, -1, 1, 1]$	$-x$	0	0.2017	0
55	$-351342150565x^2 - 111776970406x + 133690788164$	$[1, -2, -1, 1]$	$-x$	-1	0.2512	0
56	$-89311182244x^2 + 590907330724x - 262030968321$	$[1, 2, 0, 1]$	$-1/4x^2 + 1/4$	-1	0.1370	0
57	$-769529695212x^2 - 5902578411x + 178622364488$	$[1, 2, 0, 1]$	$-x$	-1	0.1111	0
58	$-1628370572668x^2 + 579102173902x + 95213760655$	$[0, 1, 2, 1]$	$-1/2x^2 - x + 1/2$	0	0.04585	0
59	$-3835843319238x^2 - 4980325478659x + 3256741145336$	$[2, -8, 5, 1]$	$-x$	2	0.2050	0
60	$-6608696051327x^2 + 5382722319634x - 1062990587149$	$[1, 10, -1, 2]$	$-1/2x^2 + 1/2$	1	0.1393	0
61	$-9300057211144x^2 - 9381548783416x + 6608696051327$	$[1, 2, 0, 1]$	$-1/2x$	1	0.06707	0
62	$25290302045887x^2 - 11746943654145x - 162983144544$	$[1, -3, -1, 1]$	$x^2 + x$	1	0.3443	0
63	$-9218565638872x^2 - 34508867684759x + 18600114422288$	$[1, 3, 1, 1]$	$-1/4x^2 - 1/4x - 1/2$	1	0.4337	0
64	$-34590359257031x^2 + 2365394870729x + 6771679195871$	$[1, -1, 0, 1]$	$-1/2x^2 - 1/2$	1	0.2677	0
65	$-43808924895903x^2 - 32143472814030x + 25371793618159$	$[0, 1, 1, 1]$	$-1/5x^2 - 4/5x - 1/5$	0	0.2697	0
66	$50662095664046x^2 - 48621206209633x + 11665452081873$	$[1, 1, -1, 1]$	$1/2x^2 + 1/2x$	-1	0.1274	0
67	$-27737188488888x^2 - 78399284152934x + 43808924895903$	$[1, 1, 1, 1]$	$-1/4x^2 - 1/4x - 1/2$	-1	0.2064	0
68	$22924907175158x^2 - 127020490362567x + 55474376977776$	$[0, 1, 1, 1]$	$-x$	0	0.2590	0
69	$-172870304712883x^2 - 13300344547698x + 45849814350316$	$[1, -2, 1, 1]$	$x$	1	0.2293	0
70	$18112625861428x^2 - 332440264878068x + 154757678851455$	$[1, 2, 0, 1]$	$1/4x^2 - 1/4$	1	0.1635	0
71	$368665516600924x^2 - 100419801267171x - 36225251722856$	$[1, -2, 0, 1]$	$-x$	1	0.09613	0
72	$755443659063276x^2 - 533279867412410x + 82307175405743$	$[0, 1, 2, 1]$	$-1/2x^2 - x + 1/2$	0	0.03721	0
73	$-2044167185538962x^2 - 2184023801784085x + 1510887318126552$	$[2, 8, -5, 1]$	$x$	-2	0.1487	0
74	$2939467460847361x^2 - 3808621138587678x + 1148866910230563$	$[1, 10, 1, 2]$	$1/2x^2 - 1/2$	-1	0.1744	0
75	$4843778030141200x^2 + 3834767736155760x - 2939467460847361$	$[1, -2, 0, 1]$	$-1/2x$	-1	0.06741	0
76	$11618013227144321x^2 - 9775119481391359x + 2018020587970880$	$[1, 3, 1, 1]$	$-x^2 - x$	-1	0.2740	0
77	$16461791257285521x^2 - 5940351745235599x - 921446872876481$	$[0, 1, 1, 1]$	$-1/4x^2 - 3/4x$	0	0.2286	0
78	$22314579581412161x^2 + 11530449806035362x - 10609002933158881$	$[1, 4, 0, 1]$	$-1/5x^2 - 4/5x - 1/5$	1	0.2638	0
79	$22227016160303202x^2 - 33186272777897919x + 10784129775376799$	$[1, 2, -1, 1]$	$-1/2x^2 - 1/2x$	1	0.2061	0
80	$16549354678394480x^2 + 38776370838697682x - 22314579581412161$	$[1, 1, -1, 1]$	$1/4x^2 + 1/4x + 1/2$	1	0.1904	0

Number:  $\xi = .2757\dots$  Equation:  $x^3 + 2x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 3x + 1$	$[1, -3, -2, 1]$	$x$	-1	0.1886	0.2933
2	$-5x^2 + 5x - 1$	$[2, -7, -1, 1]$	$-x^2$	-2	0.03981	0.08121
3	$15x^2 + 14x - 5$	$[3, -11, -1, 2]$	$x$	-3	0.09877	0.1958
4	$-34x^2 + 13x - 1$	$[1, 14, -2, 3]$	$x^2 + x$	-1	0.1785	0.2047
5	$-16x^2 - 50x + 15$	$[1, -3, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	-1	0.3026	0.3608
6	$18x^2 - 63x + 16$	$[0, -1, 1, 1]$	$-x$	0	0.1324	0.1518
7	$99x^2 + 38x - 18$	$[1, -2, -1, 1]$	$-x$	-1	0.09015	0.1064
8	$254x^2 - 226x + 43$	$[1, 4, 2, 1]$	$-x^2 - x + 1$	-1	0.3847	0.7003
9	$155x^2 - 264x + 61$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x - 1/3$	0	0.2254	0.3152
10	$160x^2 + 315x - 99$	$[1, 4, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	-1	0.2516	0.3414
11	$569x^2 - 175x + 5$	$[1, 1, 1, 1]$	$-x^2$	-1	0.06239	0.06830
12	$-1313x^2 - 1702x + 569$	$[3, -4, -2, 1]$	$x$	-3	0.1539	0.2627
13	$3584x^2 + 423x - 389$	$[1, 14, -2, 3]$	$x^2 + x$	-1	0.2400	0.2462
14	$-2660x^2 + 4085x - 924$	$[1, -3, -2, 1]$	$1/3x^2 + 1/3x - 1/3$	-1	0.06738	0.09939
15	$-9405x^2 - 7056x + 2660$	$[1, -3, -1, 1]$	$-x$	-1	0.09846	0.1618
16	$-19121x^2 + 13792x - 2349$	$[1, 5, 1, 1]$	$-x^2 - x$	-1	0.1431	0.2197
17	$-11754x^2 - 30875x + 9405$	$[1, 3, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	-1	0.2925	0.3621
18	$7367x^2 - 44667x + 11754$	$[0, -1, 1, 1]$	$-x$	0	0.1688	0.1851
19	$-59401x^2 - 10347x + 7367$	$[1, 2, 1, 1]$	$x$	-1	0.08229	0.08605
20	$-108455x^2 - 185570x + 59401$	$[1, 3, 2, 1]$	$-x$	-1	0.2214	0.3197
21	$322086x^2 - 202475x + 31340$	$[2, -7, 1, 1]$	$x^2$	-2	0.05069	0.07120
22	$-846647x^2 - 934918x + 322086$	$[3, 11, -1, 2]$	$x$	-3	0.1177	0.2283
23	$-2103651x^2 + 259748x + 88271$	$[1, -14, 2, 3]$	$-x^2 - x$	-1	0.2097	0.2132
24	$758376x^2 + 2862027x - 846647$	$[1, -3, 1, 1]$	$-1/3x^2 - 1/3x - 2/3$	-1	0.3042	0.3522
25	$-1345275x^2 + 3121775x - 758376$	$[0, 1, 1, 1]$	$-x$	0	0.09977	0.1242
26	$-5812325x^2 - 3277449x + 1345275$	$[1, 2, -1, 1]$	$-x$	1	0.09535	0.1308
27	$-10435049x^2 + 12071678x - 2534876$	$[1, 4, 1, 1]$	$-x^2 - x$	1	0.1446	0.2591
28	$-8347201x^2 - 18782250x + 5812325$	$[1, 3, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	1	0.2745	0.3550
29	$2087848x^2 - 30853928x + 8347201$	$[0, -1, 1, 1]$	$-x$	0	0.2042	0.2201
30	$-35029624x^2 + 2083657x + 2087848$	$[1, 2, 1, 1]$	$x$	1	0.07256	0.07308
31	$-107172529x^2 - 105093063x + 37117472$	$[1, 3, 3, 1]$	$1 - x$	1	0.4920	1.024
32	$-72142905x^2 - 107176720x + 35029624$	$[0, -1, 1, 1]$	$-1/5x^2 - 3/5x - 1/5$	0	0.1873	0.2921
33	$177240159x^2 - 183470175x + 37109090$	$[2, -8, 1, 1]$	$x^2$	2	0.04171	0.08234
34	$-537950493x^2 - 494611387x + 177240159$	$[3, 8, -1, 2]$	$x$	3	0.09885	0.1931
35	$-1209802039x^2 + 490727652x - 43339106$	$[1, -14, 2, 3]$	$-x^2 - x$	1	0.1758	0.2050
36	$581289599x^2 + 1791091638x - 537950493$	$[1, -3, 1, 1]$	$-1/3x^2 - 1/3x - 2/3$	1	0.3021	0.3612
37	$-628512440x^2 + 2281819290x - 581289599$	$[0, 1, 1, 1]$	$-x$	0	0.1352	0.1542
38	$-3538844170x^2 - 1304247721x + 628512440$	$[1, 2, -1, 1]$	$-x$	-1	0.08963	0.1046
39	$-9010448501x^2 + 8309873356x - 1606084009$	$[1, 4, 2, 1]$	$-x^2 - x + 1$	-1	0.3767	0.7091
40	$5471604331x^2 - 9614121077x + 2234596449$	$[0, 1, -1, 1]$	$1/3x^2 + 2/3x + 1/3$	0	0.2326	0.3206

41	$-5773440619x^2 - 11245044950x + 3538844170$	$[1, 4, -1, 1]$	$-1/3x^2 - 1/3x - 2/3$	1
42	$-20255493451x^2 + 6678949483x - 301836288$	$[1, -1, 1, 1]$	$-x^2$	1
43	$-47189936385x^2 - 60464644065x + 20255493451$	$[3, 4, 2, 1]$	$-x$	3
44	$-127910073901x^2 - 12889680106x + 13274707680$	$[1, 14, 2, 3]$	$-x^2 - x$	1
45	$93994845196x^2 - 148935622500x + 33915228705$	$[1, 3, -2, 1]$	$1/3x^2 + 1/3x - 1/3$	1
46	$-336925312892x^2 - 248069306883x + 93994845196$	$[1, 3, 1, 1]$	$x$	1
47	$678989464971x^2 - 509498485723x + 88856006009$	$[1, 5, -1, 1]$	$x^2 + x$	1
48	$425781318901x^2 + 1104770783872x - 336925312892$	$[1, -3, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	1
49	$-253208146070x^2 + 1614269269595x - 425781318901$	$[0, -1, 1, 1]$	$-x$	0
50	$-2120685561735x^2 - 333843119309x + 253208146070$	$[1, -2, -1, 1]$	$-x$	1
51	$3907528004161x^2 + 6615264831275x - 2120685561735$	$[1, 3, -2, 1]$	$x$	1
52	$-11443687220124x^2 + 7506901535302x - 1199791177047$	$[2, 7, 1, 1]$	$x^2$	2
53	$-30394275975550x^2 - 33131270483325x + 11443687220124$	$[3, -11, 1, 2]$	$-x$	3
54	$74969233678999x^2 - 10739605232101x - 2736994507775$	$[1, -14, -2, 3]$	$x^2 + x$	1
55	$-27657281467775x^2 - 102626515146774x + 30394275975550$	$[1, 3, 1, 1]$	$-1/3x^2 - 1/3x - 2/3$	1
56	$47311952211224x^2 - 113366120378875x + 27657281467775$	$[0, 1, 1, 1]$	$-x$	0
57	$-207990024801323x^2 - 114278575165897x + 47311952211224$	$[1, -2, 1, 1]$	$x$	-1
58	$369580552178444x^2 - 441812421496377x + 93711449635426$	$[1, 4, -1, 1]$	$x^2 + x$	-1
59	$301701474436749x^2 + 671282026615193x - 207990024801323$	$[1, -3, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	-1
60	$-67879077741695x^2 + 1113094448111570x - 301701474436749$	$[0, -1, 1, 1]$	$-x$	0
61	$-1248852603594960x^2 + 98064241211664x + 67879077741695$	$[1, -2, -1, 1]$	$-x$	-1
62	$2595769448401584x^2 + 3814436888526575x - 1248852603594960$	$[1, 3, -2, 1]$	$x$	-1
63	$-6281956932246526x^2 + 6727075473231363x - 1377102008276593$	$[2, 7, 1, 1]$	$x^2$	-2
64	$-19290989337724415x^2 - 17468768788462985x + 6281956932246526$	$[3, -11, 1, 2]$	$-x$	-3
65	$43041715058433926x^2 - 18475694053262179x + 1822220549261430$	$[1, -14, -2, 3]$	$x^2 + x$	-1
66	$-21113209886985845x^2 - 64154924945419771x + 19290989337724415$	$[1, 3, 1, 1]$	$-1/3x^2 - 1/3x - 2/3$	-1
67	$21928505171448081x^2 - 82630618998681950x + 21113209886985845$	$[0, 1, 1, 1]$	$-x$	0
68	$-126487629341578112x^2 - 44672305627358398x + 21928505171448081$	$[1, -2, 1, 1]$	$x$	1
69	$319576069481962703x^2 - 305332789685430775x + 59886818542771633$	$[1, 4, -2, 1]$	$x^2 + x - 1$	1
70	$193088440140384591x^2 - 350005095312789173x + 81815323714219714$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x - 1/3$	0
71	$208302953055797826x^2 + 401391393196182417x - 126487629341578112$	$[1, -4, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	-1
72	$720967462678145120x^2 - 253946491802037531x + 15214512915413235$	$[1, 1, 1, 1]$	$-x^2$	-1
73	$-1695881417158327771x^2 - 2147687875119022125x + 720967462678145120$	$[3, -4, -2, 1]$	$x$	-3
74	$4564536754955495016x^2 + 380505419401900411x - 451806457960694354$	$[1, 14, -2, 3]$	$x^2 + x$	-1
75	$-3320461795757861599x^2 + 5428106294751228022x - 1244074959197633417$	$[1, -3, -2, 1]$	$1/3x^2 + 1/3x - 1/3$	-1
76	$-12069029886266951220x^2 - 8717310428075951380x + 3320461795757861599$	$[1, -3, -1, 1]$	$-x$	-1
77	$-24106802110100764199x^2 + 18803726465082089141x - 3351719458190999840$	$[1, 5, 1, 1]$	$-x^2 - x$	-1
78	$-15420749344457951060x^2 - 39527551454558715259x + 12069029886266951220$	$[1, 3, -1, 1]$	$1/3x^2 + 1/3x + 2/3$	-1
79	$8686052765642813139x^2 - 58331277919640804400x + 15420749344457951060$	$[0, -1, 1, 1]$	$-x$	0
80	$-75703383450926430678x^2 - 10637408952470488357x + 8686052765642813139$	$[1, 2, 1, 1]$	$x$	-1

Number:  $\xi = .8342\dots$  Equation:  $x^3 + 3x^2 - 2x - 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$3 - 3x - x^2$	0	0.1383	0.2766
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$3 - 3x - x^2$	-1	0.1099	0.1649
3	$5x^2 - 3x - 1$	$[1, 5, -1, 1]$	$-x$	-1	0.5730	0.8022
4	$6x^2 - 5x$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1640	0.2778
5	$6x^2 - 11x + 5$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	1	0.1095	0.1647
6	$29x^2 - 17x - 6$	$[1, 5, -1, 1]$	$-x$	1	0.6349	0.8802
7	$x^2 - 32x + 26$	$[1, 4, -1, 1]$	$-3x^2 - 8x + 9$	1	0.1841	0.3058
8	$35x^2 - 28x - 1$	$[1, 1, 0, 1]$	$-x$	1	0.1837	0.3015
9	$36x^2 - 60x + 25$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1073	0.1645
10	$168x^2 - 97x - 36$	$[1, -1, 4, 1]$	$-x$	-1	0.7017	0.9679
11	$11x^2 - 171x + 135$	$[1, 4, -1, 1]$	$-3x^2 - 8x + 9$	-1	0.1731	0.2818
12	$204x^2 - 157x - 11$	$[1, 1, 0, 1]$	$-x$	-1	0.2056	0.3279
13	$215x^2 - 328x + 124$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1056	0.1661
14	$-91x^2 + 915x - 700$	$[1, -5, -1, 1]$	$x^2 + 3x - 3$	1	0.1633	0.2604
15	$1188x^2 - 882x - 91$	$[1, 5, 1, 1]$	$x$	1	0.2296	0.3575
16	$1279x^2 - 1797x + 609$	$[0, -1, 1, 1]$	$3 - 3x - x^2$	0	0.1044	0.1693
17	$670x^2 - 4903x + 3624$	$[1, -5, 0, 1]$	$3 - 3x - x^2$	1	0.1544	0.2416
18	$6913x^2 - 4964x - 670$	$[1, 5, -1, 1]$	$-x$	1	0.2561	0.3905
19	$7583x^2 - 9867x + 2954$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1036	0.1742
20	$4629x^2 - 26312x + 18729$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	-1	0.1464	0.2252
21	$40199x^2 - 27987x - 4629$	$[1, 5, -1, 1]$	$-x$	-1	0.2852	0.4272
22	$44828x^2 - 54299x + 14100$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1034	0.1808
23	$30728x^2 - 141427x + 96599$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	1	0.1393	0.2109
24	$233611x^2 - 158055x - 30728$	$[1, 5, -1, 1]$	$-x$	1	0.3172	0.4679
25	$264339x^2 - 299482x + 65871$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1036	0.1893
26	$198468x^2 - 761434x + 497095$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	-1	0.1330	0.1988
27	$1356838x^2 - 894031x - 198468$	$[1, 5, -1, 1]$	$-x$	-1	0.3524	0.5129
28	$1555306x^2 - 1655465x + 298627$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1042	0.1996
29	$1256679x^2 - 4106652x + 2551346$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	1	0.1274	0.1886
30	$7876689x^2 - 5064704x - 1256679$	$[1, 5, -1, 1]$	$-x$	1	0.3911	0.5628
31	$9133368x^2 - 9171356x + 1294667$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1054	0.2119
32	$7838701x^2 - 22188725x + 13055357$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	-1	0.1225	0.1802
33	$45704828x^2 - 28732759x - 7838701$	$[1, 5, -1, 1]$	$-x$	-1	0.4337	0.6179
34	$53543529x^2 - 50921484x + 5216656$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1183	0.2264
35	$48326873x^2 - 120114981x + 66571452$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	1	0.1183	0.1737
36	$265095600x^2 - 163225198x - 48326873$	$[1, 5, -1, 1]$	$-x$	1	0.4805	0.6787
37	$313422473x^2 - 283340179x + 18244579$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1335	0.2430
38	$295177894x^2 - 651496389x + 338073916$	$[1, 5, 0, 1]$	$3 - 3x - x^2$	-1	0.1146	0.1689
39	$1537030071x^2 - 928429704x - 295177894$	$[1, 5, -1, 1]$	$-x$	-1	0.5320	0.7458
40	$1832207965x^2 - 1579926093x + 42896022$	$[0, 1, 1, 1]$	$3 - 3x - x^2$	0	0.1502	0.2620

41	$1789311943x^2 - 3540822124x + 1708614159$	[1, 5, 0, 1]	$3 - 3x - x^2$	1	0.1115	0.1
42	$8908757953x^2 - 5287238045x - 1789311943$	[1, 5, -1, 1]	$-x$	1	0.5886	0.8
43	$80697784x^2 - 10455976544x + 8666664601$	[1, 4, -1, 1]	$-3x^2 - 8x + 9$	1	0.1931	0.3
44	$10698069896x^2 - 8828060169x - 80697784$	[1, 1, 0, 1]	$-x$	1	0.1687	0.2
45	$10778767680x^2 - 19284036713x + 8585966817$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1089	0.1
46	$51620339753x^2 - 30143502177x - 10778767680$	[1, -1, 4, 1]	$-x$	-1	0.6509	0.9
47	$2192800863x^2 - 55820704844x + 45041937164$	[1, 4, -1, 1]	$-3x^2 - 8x + 9$	-1	0.1813	0.2
48	$62399107433x^2 - 49427538890x - 2192800863$	[1, 1, 0, 1]	$-x$	-1	0.1890	0.3
49	$64591908296x^2 - 105248243734x + 42849136301$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1068	0.1
50	$-21742771995x^2 + 298387560933x - 233795652637$	[1, -5, -1, 1]	$x^2 + 3x - 3$	1	0.1706	0.2
51	$363615876918x^2 - 277281196627x - 21742771995$	[1, 5, 1, 1]	$x$	1	0.2113	0.3
52	$385358648913x^2 - 575668757560x + 212052880642$	[0, -1, 1, 1]	$3 - 3x - x^2$	0	0.1052	0.1
53	$173305768271x^2 - 1597186048399x + 1211827399486$	[1, -5, 0, 1]	$3 - 3x - x^2$	1	0.1610	0.2
54	$2117103353212x^2 - 1558438936028x - 173305768271$	[1, 5, -1, 1]	$-x$	1	0.2360	0.3
55	$2290409121483x^2 - 3155624984427x + 1038521631215$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1042	0.1
56	$1251887490268x^2 - 8561598999555x + 6271189878072$	[1, 5, 0, 1]	$3 - 3x - x^2$	-1	0.1523	0.2
57	$12317261470359x^2 - 8774964858608x - 1251887490268$	[1, 5, -1, 1]	$-x$	-1	0.2630	0.3
58	$13569148960627x^2 - 17336563858163x + 5019302387804$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1035	0.1
59	$8549846572823x^2 - 45963619982202x + 32394471021575$	[1, 5, 0, 1]	$3 - 3x - x^2$	1	0.1446	0.2
60	$71613159700671x^2 - 49494164167221x - 8549846572823$	[1, 5, -1, 1]	$-x$	1	0.2928	0.4
61	$80163006273494x^2 - 95457784149423x + 23844624448752$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1034	0.1
62	$56318381824742x^2 - 247154663769173x + 166991657495679$	[1, 5, 0, 1]	$3 - 3x - x^2$	-1	0.1377	0.2
63	$416109809243399x^2 - 279628421145163x - 56318381824742$	[1, 5, -1, 1]	$-x$	-1	0.3256	0.4
64	$472428191068141x^2 - 526783084914336x + 110673275670937$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1037	0.1
65	$361754915397204x^2 - 1331231102995288x + 858802911927147$	[1, 5, 0, 1]	$3 - 3x - x^2$	1	0.1316	0.1
66	$2416495849186900x^2 - 1582312742721555x - 361754915397204$	[1, 5, -1, 1]	$-x$	1	0.3617	0.5
67	$2778250764584104x^2 - 2913543845716843x + 497047996529943$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1045	0.2
68	$2281202768054161x^2 - 7182938599890776x + 4404687835306672$	[1, 5, 0, 1]	$3 - 3x - x^2$	-1	0.1262	0.1
69	$14026546904053259x^2 - 8967093371414994x - 2281202768054161$	[1, 5, -1, 1]	$-x$	-1	0.4013	0.5
70	$16307749672107420x^2 - 16150031971305770x + 2123485067252511$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1078	0.2
71	$14184264604854909x^2 - 38828236845170723x + 22520487173063303$	[1, 5, 0, 1]	$3 - 3x - x^2$	1	0.1214	0.1
72	$81381030659735450x^2 - 50889016382773121x - 14184264604854909$	[1, 5, -1, 1]	$-x$	1	0.4449	0.6
73	$95565295264590359x^2 - 89717253227943844x + 8336222568208394$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1219	0.2
74	$87229072696381965x^2 - 210291216197159385x + 114725920932569026$	[1, 5, 0, 1]	$3 - 3x - x^2$	-1	0.1173	0.1
75	$471978434286305280x^2 - 289184066325332956x - 87229072696381965$	[1, 5, -1, 1]	$-x$	-1	0.4929	0.6
76	$559207506982687245x^2 - 499475282522492341x + 27496848236187061$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1375	0.2
77	$531710658746500184x^2 - 1141173334213740769x + 581965827231053524$	[1, 5, 0, 1]	$3 - 3x - x^2$	1	0.1138	0.1
78	$2736305310453241321x^2 - 1645387144724053892x - 531710658746500184$	[1, 5, -1, 1]	$-x$	1	0.5456	0.7
79	$3268015969199741505x^2 - 2786560478937794661x + 50255168484553340$	[0, 1, 1, 1]	$3 - 3x - x^2$	0	0.1546	0.2
80	$3217760800715188165x^2 - 6205341953591196186x + 2937325984391454681$	[1, 5, 0, 1]	$3 - 3x - x^2$	-1	0.1108	0.1

Number:  $\xi = .8608\dots$  Equation:  $x^3 + 3x^2 - x - 2 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	0	0.1198	0.2396
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	-1	0.07750	0.1163
3	$5x^2 - 2x - 2$	[1, 6, -2, 1]	$-x$	-1	0.4170	0.5504
4	$6x^2 - 4x - 1$	[0, 1, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	0	0.09709	0.1429
5	$13x^2 - 17x + 5$	[1, 7, 1, 1]	$3 - 3x - x^2$	1	0.2521	0.4213
6	$28x^2 - 9x - 13$	[1, 6, -1, 1]	$-1/2 x$	1	0.2943	0.3882
7	$-24x^2 - 20x + 35$	[1, 2, -2, 1]	$-x^2 - 2x + 3$	1	0.2471	0.4440
8	$-52x^2 - 11x + 48$	[0, -1, 1, 1]	$-x$	0	0.4696	0.8907
9	$45x^2 - 55x + 14$	[1, 2, 1, 1]	$-x^2 - 2x + 2$	1	0.2430	0.4214
10	$-76x^2 - 31x + 83$	[1, 1, 0, 1]	$-1/4 x^2 - 1/4 x + 3/4$	1	0.1934	0.3826
11	$38x^2 - 121x + 76$	[1, 2, 0, 1]	$-x^2 - 2x + 2$	1	0.1902	0.2840
12	$235x^2 - 114x - 76$	[1, -2, 1, 1]	$-x$	1	0.6175	0.8274
13	$273x^2 - 235x$	[0, 1, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	0	0.1348	0.2346
14	$273x^2 - 508x + 235$	[1, 3, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	-1	0.07545	0.1134
15	$1327x^2 - 508x - 546$	[1, 6, -2, 1]	$-x$	-1	0.4432	0.5832
16	$1600x^2 - 1016x - 311$	[0, 1, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	0	0.1042	0.1501
17	$3511x^2 - 4299x + 1099$	[1, 7, 1, 1]	$3 - 3x - x^2$	1	0.2432	0.4214
18	$-1206x^2 + 7309x - 5398$	[1, 5, -3, 1]	$1/2 x^2 + 3/2 x - 1$	1	0.4653	0.7317
19	$7416x^2 - 2305x - 3511$	[1, 2, 1, 1]	$-1/4 x^2 - 1/4 x - 1/4$	1	0.3115	0.4115
20	$6210x^2 + 5004x - 8909$	[0, 1, 1, 1]	$x^2 + 2x - 3$	0	0.2416	0.4353
21	$13626x^2 + 2699x - 12420$	[0, 1, 2, 1]	$-x$	0	0.4866	0.9099
22	$12133x^2 - 13913x + 2986$	[1, -1, 1, 1]	$x^2 + 2x - 2$	1	0.2347	0.4239
23	$19836x^2 + 7703x - 21329$	[1, 1, 0, 1]	$1/4 x^2 + 1/4 x - 3/4$	1	0.1928	0.3846
24	$-10640x^2 + 30525x - 18392$	[1, -2, 0, 1]	$-x^2 - 2x + 2$	1	0.1827	0.2712
25	$62445x^2 - 29032x - 21280$	[1, 2, -1, 1]	$x$	1	0.6580	0.8766
26	$-1444x^2 + 68753x - 58113$	[1, 2, 0, 1]	$3/4 x^2 + 7/4 x - 9/4$	1	0.1498	0.2569
27	$-73085x^2 + 59557x + 2888$	[1, -1, 0, 1]	$-x$	1	0.1457	0.2428
28	$74529x^2 - 128310x + 55225$	[0, -1, -1, 1]	$1/2 x^2 + 3/2 x - 3/2$	0	0.07264	0.1106
29	$351897x^2 - 129754x - 149058$	[1, 2, -4, 1]	$-x$	1	0.4703	0.6186
30	$426426x^2 - 258064x - 93833$	[0, 1, 1, 1]	$-1/2 x^2 - 3/2 x + 3/2$	0	0.1117	0.1580
31	$-946685x^2 + 1087481x - 234629$	[1, -7, -1, 1]	$x^2 + 3x - 3$	-1	0.2349	0.4238
32	$-356028x^2 + 1842369x - 1322110$	[1, 5, 3, 1]	$-1/2 x^2 - 3/2 x + 1$	-1	0.4461	0.6925
33	$1963768x^2 - 590657x - 946685$	[1, -2, 1, 1]	$-1/4 x^2 - 1/4 x - 1/4$	-1	0.3297	0.4361
34	$1607740x^2 + 1251712x - 2268795$	[0, 1, 1, 1]	$x^2 + 2x - 3$	0	0.2365	0.4272
35	$-3266481x^2 + 3520507x - 610054$	[1, 1, -1, 1]	$-x^2 - x + 2$	1	0.2267	0.4287
36	$5179248x^2 + 1912767x - 5484275$	[1, 2, 0, 1]	$-1/4 x^2 - 1/4 x + 3/4$	1	0.1923	0.3873
37	$2961454x^2 - 7702069x + 4435588$	[1, -2, -1, 1]	$x^2 + 2x - 2$	1	0.1755	0.2596
38	$-16586431x^2 + 7397042x + 5922908$	[1, -2, -1, 1]	$x$	1	0.7005	0.9292
39	$-743660x^2 + 17316905x - 14355451$	[1, -2, 0, 1]	$-3/4 x^2 - 7/4 x + 9/4$	1	0.1434	0.2423
40	$19547885x^2 - 15099111x - 1487320$	[1, -1, 0, 1]	$x$	1	0.1573	0.2521

41	$20291545x^2 - 32416016x + 12868131$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.06996	0.1084
42	$-93290651x^2 + 33159676x + 40583090$	$[1, -2, -4, 1]$	$x$	1	0.4988	0.6562
43	$-113582196x^2 + 65575692x + 27714959$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1196	0.1665
44	$254879351x^2 - 275170899x + 48006507$	$[1, 7, -1, 1]$	$x^2 + 3x - 3$	1	0.2269	0.4286
45	$103436422x^2 - 464474561x + 323177406$	$[1, 5, 3, 1]$	$-1/2x^2 - 3/2x + 1$	1	0.4279	0.6562
46	$-519904476x^2 + 151442929x + 254879351$	$[1, -2, 1, 1]$	$-1/4x^2 - 1/4x - 1/4$	1	0.3487	0.4621
47	$-416468054x^2 - 313031632x + 578056757$	$[0, 1, 1, 1]$	$x^2 + 2x - 3$	0	0.2316	0.4198
48	$878220249x^2 - 891088389x + 116304562$	$[1, 1, -1, 1]$	$-x^2 - x + 2$	-1	0.2192	0.4359
49	$-1352840584x^2 - 474620335x + 1410992865$	$[1, 2, 0, 1]$	$-1/4x^2 - 1/4x + 3/4$	-1	0.1921	0.3905
50	$-820067968x^2 + 1943765481x - 1065545232$	$[1, -2, -1, 1]$	$x^2 + 2x - 2$	-1	0.1687	0.2494
51	$-287295352x^2 + 4362151297x - 3542083329$	$[0, -1, 2, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1374	0.2285
52	$5224037353x^2 - 3829378681x - 574590704$	$[1, -2, -2, 1]$	$x$	-1	0.1696	0.2627
53	$5511332705x^2 - 8191529978x + 2967492625$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.06742	0.1068
54	$24725528093x^2 - 8478825330x - 11022665410$	$[1, 2, 5, 1]$	$-x$	-1	0.5287	0.6960
55	$30236860798x^2 - 16670355308x - 8055172785$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1279	0.1758
56	$68528894381x^2 - 69648913857x + 9175192261$	$[1, 7, 1, 1]$	$3 - 3x - x^2$	1	0.2194	0.4356
57	$-29676851060x^2 + 117116139701x - 78824106118$	$[1, 5, -3, 1]$	$1/2x^2 + 3/2x - 1$	1	0.4105	0.6228
58	$137617798500x^2 - 38852043321x - 68528894381$	$[1, 2, 1, 1]$	$-1/4x^2 - 1/4x - 1/4$	1	0.3687	0.4895
59	$107940947440x^2 + 78264096380x - 147353000499$	$[0, 1, 1, 1]$	$x^2 + 2x - 3$	0	0.2271	0.4131
60	$235823543941x^2 - 225617096879x + 19470403998$	$[1, -1, 1, 1]$	$x^2 + x - 2$	-1	0.2317	0.4453
61	$353499693380x^2 + 117676149439x - 363234895379$	$[1, 2, 0, 1]$	$1/4x^2 + 1/4x - 3/4$	-1	0.1921	0.3943
62	$226088341942x^2 - 490646246817x + 254822702876$	$[1, 2, -1, 1]$	$x^2 + 2x - 2$	-1	0.1622	0.2403
63	$98676990504x^2 - 1098968643073x + 872880301131$	$[0, -1, 2, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1316	0.2156
64	$1394999614585x^2 - 971557291635x - 197353981008$	$[1, 2, 2, 1]$	$-x$	-1	0.1825	0.2746
65	$1493676605089x^2 - 2070525934708x + 675526320123$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.06500	0.1057
66	$-6551555749975x^2 + 2169202925212x + 2987353210178$	$[1, 2, -5, 1]$	$x$	1	0.5602	0.7381
67	$-8045232355064x^2 + 4239728859920x + 2311826890055$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1366	0.1858
68	$-9973134324929x^2 - 11901036294794x + 17634441759803$	$[2, 9, 4, 1]$	$x^2 + 2x - 3$	2	0.3527	0.6261
69	$-18402291600183x^2 + 17634441759803x - 1543977049675$	$[1, 5, -1, 2]$	$x^2 + x - 1$	1	0.2311	0.4450
70	$-8429157275254x^2 + 29535478054597x - 19178418809478$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 1$	0	0.3940	0.5922
71	$-36420658280176x^2 + 9973134324929x + 18402291600183$	$[1, 1, 1, 1]$	$1/4x^2 + 1/4x + 1/4$	1	0.3897	0.5184
72	$-27991501004922x^2 - 19562343729668x + 37580710409661$	$[0, -1, 1, 1]$	$x^2 + 2x - 3$	0	0.2230	0.4071
73	$-63252107155613x^2 + 57143054139329x - 2320104258970$	$[1, 1, 1, 1]$	$x^2 + x - 2$	1	0.2515	0.4571
74	$-92403660290020x^2 - 29151553134407x + 93563712419505$	$[1, 2, 0, 1]$	$1/4x^2 + 1/4x - 3/4$	1	0.1924	0.3987
75	$-62092055026128x^2 + 123875317683397x - 60623210527784$	$[1, 2, -1, 1]$	$x^2 + 2x - 2$	1	0.1560	0.2325
76	$-31780449762236x^2 + 276902188501201x - 214810133475073$	$[0, -1, 2, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1260	0.2035
77	$-372243537787909x^2 + 246590583237309x + 63560899524472$	$[1, 2, 2, 1]$	$-x$	1	0.1961	0.2878
78	$-404023987550145x^2 + 523492771738510x - 151249233950601$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.06270	0.1053
79	$1735564734388945x^2 - 555273221500746x - 808047975100290$	$[1, 2, -5, 1]$	$x$	-1	0.5933	0.7826
80	$2139588721939090x^2 - 1078765993239256x - 656798741149689$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 3/2$	0	0.1458	0.1966

Number:  $\xi = .6751\dots$  Equation:  $x^3 + 3x^2 - x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$4 - 5x - 2x^2$	-1	0.1309	0.3928
2	$-2x^2 + 1$	$[1, -1, 1, 1]$	$-x$	-1	0.3536	0.4420
3	$3x^2 - 2x$	$[1, 2, -2, 1]$	$-x^2 - 2x + 2$	-1	0.1543	0.2229
4	$3x^2 - 5x + 2$	$[1, 1, 2, 1]$	$-x^2 - 3x + 2$	-1	0.2062	0.3135
5	$-5x^2 - 7x + 7$	$[1, -4, 3, 1]$	$-1/2x^2 - x + 3/2$	-1	0.2413	0.6057
6	$-8x^2 - 2x + 5$	$[0, -1, 1, 1]$	$-x$	0	0.2128	0.3092
7	$9x^2 - 12x + 4$	$[1, 2, 0, 1]$	$-x^2 - 2x + 2$	-1	0.09285	0.1554
8	$5x^2 - 33x + 20$	$[1, 1, 2, 1]$	$-x^2 - 3x + 2$	-1	0.3379	0.4697
9	$-34x^2 - 20x + 29$	$[1, -4, 2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.1446	0.2997
10	$53x^2 - 58x + 15$	$[1, 2, -1, 1]$	$-x^2 - 2x + 1$	-1	0.3391	0.6449
11	$19x^2 - 78x + 44$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x + 1$	0	0.1475	0.2032
12	$-135x^2 + 63x + 19$	$[1, 1, -2, 1]$	$x$	1	0.2984	0.3693
13	$-154x^2 + 141x - 25$	$[0, -1, 1, 1]$	$-x^2 - 3x + 2$	0	0.1868	0.3484
14	$-160x^2 - 166x + 185$	$[1, 3, 2, 1]$	$1/2x^2 + x - 3/2$	1	0.1610	0.4110
15	$-314x^2 - 25x + 160$	$[0, 1, 1, 1]$	$-x$	0	0.3131	0.3963
16	$-443x^2 + 345x - 31$	$[1, 2, 0, 1]$	$x^2 + 2x - 2$	-1	0.1209	0.1947
17	$412x^2 - 881x + 407$	$[1, 1, -2, 1]$	$x^2 + 3x - 2$	-1	0.2300	0.3294
18	$-1262x^2 - 407x + 850$	$[1, 4, 2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.1902	0.2963
19	$-1267x^2 + 2107x - 845$	$[1, -2, 0, 1]$	$x^2 + 2x - 2$	-1	0.1028	0.1565
20	$-5486x^2 - 3797x + 5064$	$[2, 5, 0, 1]$	$x^2 + 2x - 2$	-2	0.1352	0.3151
21	$-7597x^2 + 10128x - 3375$	$[1, 5, 0, 1]$	$x^2 + 2x - 1$	-2	0.3714	0.6216
22	$-12661x^2 + 422x + 5486$	$[1, 3, 1, 2]$	$-1/2 - 1/2x$	-1	0.4861	0.5779
23	$2111x^2 - 13925x + 8439$	$[1, -1, 0, 1]$	$4 - 5x - 2x^2$	-1	0.1689	0.2348
24	$-20258x^2 + 10550x + 2111$	$[1, 1, 0, 1]$	$x$	-1	0.2414	0.3094
25	$-22369x^2 + 24475x - 6328$	$[0, -1, 1, 1]$	$-x^2 - 3x + 2$	0	0.1695	0.3225
26	$-26586x^2 - 30803x + 32914$	$[1, 3, 1, 1]$	$1/2x^2 + x - 3/2$	-1	0.1830	0.4627
27	$-48955x^2 - 6328x + 26586$	$[0, 1, 1, 1]$	$-x$	0	0.2734	0.3585
28	$-64996x^2 + 59500x - 10545$	$[1, 2, 0, 1]$	$x^2 + 2x - 2$	1	0.09345	0.1742
29	$54451x^2 - 156131x + 80590$	$[1, 1, -2, 1]$	$x^2 + 3x - 2$	1	0.2595	0.3602
30	$-200037x^2 - 80590x + 145586$	$[1, 4, 2, 1]$	$-1/2x^2 - x + 1/2$	1	0.1717	0.2904
31	$-173898x^2 + 371762x - 171725$	$[1, -2, 0, 1]$	$x^2 + 2x - 2$	1	0.1150	0.1647
32	$-891283x^2 - 715212x + 889110$	$[2, 5, 0, 1]$	$x^2 + 2x - 2$	2	0.1282	0.3383
33	$-1069527x^2 + 1778220x - 713039$	$[1, 5, 0, 1]$	$x^2 + 2x - 1$	2	0.4113	0.6261
34	$-1958637x^2 + 2173x + 891283$	$[1, 3, 1, 2]$	$-1/2 - 1/2x$	1	0.4179	0.5044
35	$178244x^2 - 2493432x + 1602149$	$[1, -1, 0, 1]$	$4 - 5x - 2x^2$	1	0.1945	0.2759
36	$-3028164x^2 + 1780393x + 178244$	$[1, 1, 0, 1]$	$x$	1	0.1937	0.2614
37	$-3206408x^2 + 4273825x - 1423905$	$[0, -1, 1, 1]$	$-x^2 - 3x + 2$	0	0.1857	0.3108
38	$-4452069x^2 - 5697730x + 5875974$	$[1, 3, 1, 1]$	$1/2x^2 + x - 3/2$	1	0.2095	0.5268
39	$-7658477x^2 - 1423905x + 4452069$	$[0, 1, 1, 1]$	$-x$	0	0.2403	0.3298
40	$-9440980x^2 + 10328043x - 2669566$	$[1, 2, 0, 1]$	$x^2 + 2x - 2$	-1	0.08476	0.1612



41	$6771414x^2 - 27777721x + 15667175$	$[1, 1, -2, 1]$	$x^2 + 3x - 2$	-1	0.2950	0.4064
42	$-31879569x^2 - 15667175x + 25108155$	$[1, 4, 2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.1566	0.2916
43	$-54863377x^2 + 50216310x - 8895761$	$[1, -2, 1, 1]$	$x^2 + 2x - 1$	-1	0.3739	0.6969
44	$-22983808x^2 + 65883485x - 34003916$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x + 1$	0	0.1297	0.1801
45	$-134834909x^2 + 56987724x + 22983808$	$[1, 1, 2, 1]$	$-x$	-1	0.3668	0.4430
46	$145855017x^2 + 133891317x - 156875125$	$[1, 3, -2, 1]$	$4 - 5x - 2x^2$	-1	0.1426	0.3698
47	$-303673734x^2 - 11020108x + 145855017$	$[1, 1, -1, 1]$	$x$	-1	0.3608	0.4446
48	$-943592x^2 + 447641567x - 301786550$	$[1, 3, 1, 1]$	$2x^2 + 5x - 4$	-1	0.2252	0.3276
49	$450472343x^2 - 302730142x - 943592$	$[1, -1, -1, 1]$	$x$	-1	0.1540	0.2235
50	$451415935x^2 - 750371709x + 300842958$	$[0, -1, 1, 1]$	$-x^2 - 3x + 2$	0	0.2056	0.3131
51	$-751315301x^2 - 1051214667x + 1052158259$	$[1, -3, -1, 1]$	$-1/2x^2 - x + 3/2$	-1	0.2413	0.6053
52	$-1202731236x^2 - 300842958x + 751315301$	$[0, -1, 1, 1]$	$-x$	0	0.2129	0.3093
53	$1353304213x^2 - 1803473560x + 600742324$	$[1, 2, 0, 1]$	$-x^2 - 2x + 2$	-1	0.09283	0.1554
54	$752561889x^2 - 4959004745x + 3004958208$	$[1, 1, 2, 1]$	$-x^2 - 3x + 2$	-1	0.3377	0.4695
55	$-5110824310x^2 - 3004958208x + 4358262421$	$[1, -4, 2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.1446	0.2997
56	$7969252301x^2 - 8716524842x + 2252396319$	$[1, 2, -1, 1]$	$-x^2 - 2x + 1$	-1	0.3390	0.6450
57	$2858427991x^2 - 11721483050x + 6610658740$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x + 1$	0	0.1475	0.2032
58	$-20296767023x^2 + 9469086731x + 2858427991$	$[1, 1, -2, 1]$	$x$	1	0.2986	0.3695
59	$-23155195014x^2 + 21190569781x - 3752230749$	$[0, -1, 1, 1]$	$-x^2 - 3x + 2$	0	0.1870	0.3485
60	$-24048997772x^2 - 24942800530x + 27801228521$	$[1, 3, 2, 1]$	$1/2x^2 + x - 3/2$	1	0.1609	0.4108
61	$47204192786x^2 + 3752230749x - 24048997772$	$[0, -1, -1, 1]$	$x$	0	0.3132	0.3965
62	$-66607157051x^2 + 51850226293x - 4646033507$	$[1, 2, 0, 1]$	$-x^2 - 2x + 2$	1	0.1209	0.1948
63	$61961123544x^2 - 132395483865x + 61142293307$	$[1, -1, -2, 1]$	$x^2 + 3x - 2$	1	0.2299	0.3293
64	$189710573902x^2 + 61142293307x - 127749450358$	$[1, -4, -2, 1]$	$1/2x^2 + x - 1/2$	1	0.1903	0.2963
65	$-190529404139x^2 + 316641194023x - 126930620121$	$[1, -2, 0, 1]$	$-x^2 - 2x + 2$	1	0.1028	0.1565
66	$-824630622422x^2 - 570502434265x + 761031838404$	$[2, -5, 0, 1]$	$x^2 + 2x - 2$	2	0.1352	0.3151
67	$1142357594597x^2 - 1522063676808x + 506903650247$	$[1, -5, 0, 1]$	$-x^2 - 2x + 1$	2	0.3713	0.6216
68	$-1903389433001x^2 + 63598784018x + 824630622422$	$[1, 3, -1, 2]$	$1/2x + 1/2$	1	0.4863	0.5782
69	$317726972175x^2 - 2092566111073x + 1267935488651$	$[1, 1, 0, 1]$	$4 - 5x - 2x^2$	1	0.1689	0.2347
70	$3045747027598x^2 - 1585662460826x - 317726972175$	$[1, -1, 0, 1]$	$-x$	1	0.2415	0.3096
71	$3363473999773x^2 - 3678228571899x + 950208516476$	$[0, 1, 1, 1]$	$-x^2 - 3x + 2$	0	0.1695	0.3225
72	$-3995955544074x^2 - 4628437088375x + 4946164060550$	$[1, 3, -1, 1]$	$-1/2x^2 - x + 3/2$	-1	0.1830	0.4626
73	$-7359429543847x^2 - 950208516476x + 3995955544074$	$[0, -1, 1, 1]$	$-x$	0	0.2735	0.3586
74	$9772695027144x^2 - 8942119604624x + 1582690060777$	$[1, 2, 0, 1]$	$-x^2 - 2x + 2$	-1	0.09352	0.1743
75	$8190004966367x^2 - 23462884814099x + 12107499726178$	$[1, 1, 2, 1]$	$-x^2 - 3x + 2$	-1	0.2594	0.3601
76	$-30070199719689x^2 - 12107499726178x + 21880194753322$	$[1, -4, 2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.1717	0.2905
77	$26152704959878x^2 - 55867889232822x + 25797689513133$	$[1, 2, 0, 1]$	$-x^2 - 2x + 2$	-1	0.1149	0.1646
78	$-133970988665711x^2 - 107463268259088x + 133615973218966$	$[2, 5, 0, 1]$	$-x^2 - 2x + 2$	-2	0.1282	0.3382
79	$-160833724519079x^2 + 267231946437932x - 107108252812343$	$[1, -5, 0, 1]$	$x^2 + 2x - 1$	-2	0.4111	0.6261
80	$294449697738045x^2 - 355015446745x - 133970988665711$	$[1, -3, -1, 2]$	$1/2x + 1/2$	-1	0.4181	0.5046

Number:  $\xi = .5321\dots$  Equation:  $x^3 + 3x^2 - 1 = 0$ . “All” optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-x^2 - 2x + 2$	-1	0.1848	0.5544
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$x^2 + x - 1$	-1	0.1366	0.1707
3	$-2x^2 + 3x - 1$	$[1, -1, 2, 1]$	$-x^2 - 3x + 1$	-1	0.2703	0.4204
4	$-4x^2 + 4x - 1$	$[0, 1, 1, 1]$	$-1/3x^2 - 4/3x + 2/3$	0	0.06590	0.1359
5	$3x^2 - 11x + 5$	$[1, 2, -4, 1]$	$x^2 + 3x - 1$	1	0.4383	0.5614
6	$-13x^2 - 10x + 9$	$[1, 5, 3, 1]$	$-1/3x^2 - 1/3x + 2/3$	1	0.2417	0.5007
7	$-7x^2 + 15x - 6$	$[1, -1, 0, 1]$	$x^2 + 2x - 1$	1	0.1118	0.1540
8	$35x^2 + 34x - 28$	$[1, -3, 1, 1]$	$-x^2 - 2x + 1$	1	0.2114	0.5461
9	$8x^2 - 55x + 27$	$[1, -3, 0, 1]$	$x^2 + 2x - 1$	1	0.1813	0.2288
10	$79x^2 - 27x - 8$	$[1, 2, 2, 1]$	$-x$	1	0.1990	0.2243
11	$87x^2 - 82x + 19$	$[0, 1, 1, 1]$	$-x^2 - 3x + 1$	0	0.2122	0.4109
12	$98x^2 + 117x - 90$	$[1, -2, 1, 1]$	$2/3x^2 + 5/3x - 1/3$	-1	0.2849	0.6533
13	$166x^2 - 109x + 11$	$[1, 1, 0, 1]$	$x^2 + x - 1$	-1	0.1060	0.1521
14	$155x^2 - 308x + 120$	$[1, -1, 1, 1]$	$-x^2 - 3x + 1$	-1	0.3208	0.4507
15	$286x^2 + 406x - 297$	$[1, 3, -2, 1]$	$2/3x^2 + 5/3x - 1/3$	-1	0.4137	0.8404
16	$321x^2 - 417x + 131$	$[1, 1, 0, 1]$	$x^2 + x - 1$	-1	0.08065	0.1364
17	$190x^2 - 1131x + 548$	$[1, -1, 1, 1]$	$-x^2 - 3x + 1$	-1	0.5217	0.6590
18	$1190x^2 + 1000x - 869$	$[1, 4, -2, 1]$	$1/3x^2 + 1/3x - 2/3$	-1	0.2281	0.5108
19	$511x^2 - 1548x + 679$	$[1, 1, 0, 1]$	$x^2 + 2x - 1$	-1	0.1341	0.1745
20	$3081x^2 - 679x - 511$	$[1, 2, 1, 1]$	$-x$	-1	0.2826	0.3041
21	$3249x^2 + 3417x - 2738$	$[1, -2, 1, 1]$	$x^2 + 2x - 2$	-1	0.2269	0.5776
22	$343x^2 - 5644x + 2906$	$[1, 1, -1, 1]$	$x^2 + 2x - 1$	-1	0.2149	0.2727
23	$6673x^2 - 2906x - 343$	$[1, 1, 1, 1]$	$-x$	-1	0.1599	0.1906
24	$7016x^2 - 8550x + 2563$	$[0, 1, 1, 1]$	$-x^2 - 3x + 1$	0	0.2308	0.4070
25	$9236x^2 + 11799x - 8893$	$[1, -2, 1, 1]$	$2/3x^2 + 5/3x - 1/3$	1	0.3262	0.7115
26	$13689x^2 - 11456x + 2220$	$[1, 1, 0, 1]$	$x^2 + x - 1$	1	0.08115	0.1401
27	$11469x^2 - 31805x + 13676$	$[1, -1, 1, 1]$	$-x^2 - 3x + 1$	1	0.3852	0.5065
28	$27365x^2 + 41041x - 29585$	$[1, 3, -2, 1]$	$2/3x^2 + 5/3x - 1/3$	1	0.4761	0.9352
29	$41054x^2 + 29585x - 27365$	$[1, 0, 1, 1]$	$-x$	1	0.2535	0.4977
30	$25158x^2 - 43261x + 15896$	$[1, -1, 1, 1]$	$x^2 + 2x - 1$	1	0.09775	0.1440
31	$109473x^2 + 100211x - 84315$	$[1, 2, 0, 1]$	$x^2 + 2x - 1$	1	0.2174	0.5285
32	$-34420x^2 + 159368x - 75053$	$[1, -3, 0, 1]$	$-x^2 - 2x + 1$	1	0.1600	0.2030
33	$-262628x^2 + 75053x + 34420$	$[1, -2, 2, 1]$	$-x$	1	0.2312	0.2541
34	$297048x^2 - 234421x + 40633$	$[0, -1, -1, 1]$	$x^2 + 3x - 1$	0	0.2601	0.4270
35	$303261x^2 + 343894x - 268841$	$[1, 2, -1, 1]$	$2/3x^2 + 5/3x - 1/3$	1	0.2588	0.6181
36	$-559676x^2 + 309474x - 6213$	$[1, -1, 0, 1]$	$-x^2 - x + 1$	1	0.1266	0.1654
37	$553463x^2 - 887789x + 315687$	$[1, -1, -1, 1]$	$x^2 + 3x - 1$	1	0.2802	0.4246
38	$875363x^2 + 1191050x - 881576$	$[1, -3, -2, 1]$	$2/3x^2 + 5/3x - 1/3$	1	0.3744	0.7817
39	$-1113139x^2 + 1197263x - 321900$	$[1, -1, 0, 1]$	$-x^2 - x + 1$	1	0.06990	0.1354
40	$791239x^2 - 3276102x + 1519163$	$[1, -1, -1, 1]$	$x^2 + 3x - 1$	1	0.4603	0.5861

41	$3745441x^2 + 2954202x - 2632302$	$[1, -4, -2, 1]$	$1/3x^2 + 1/3x - 2/3$	1	0.2376	0.5028
42	$-1904378x^2 + 4473365x - 1841063$	$[1, -1, 0, 1]$	$-x^2 - 2x + 1$	1	0.1177	0.1590
43	$10123184x^2 + 10059869x - 8218806$	$[1, 3, 1, 1]$	$-x^2 - 2x + 1$	1	0.2093	0.5541
44	$-1967693x^2 + 16374297x - 8155491$	$[1, 3, 0, 1]$	$-x^2 - 2x + 1$	1	0.1902	0.2402
45	$22277376x^2 - 8155491x - 1967693$	$[1, 2, -2, 1]$	$x$	1	0.1873	0.2139
46	$-24245069x^2 + 24529788x - 6187798$	$[0, 1, -1, 1]$	$x^2 + 3x - 1$	0	0.1997	0.4076
47	$28465174x^2 + 34652972x - 26497481$	$[1, 2, 1, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.2959	0.6685
48	$46522445x^2 - 32685279x + 4220105$	$[1, -1, 0, 1]$	$x^2 + x - 1$	-1	0.09855	0.1480
49	$-42302340x^2 + 91868039x - 36905384$	$[1, 1, -1, 1]$	$x^2 + 3x - 1$	-1	0.3379	0.4641
50	$83427829x^2 + 120333213x - 87647934$	$[1, 3, 2, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.4303	0.8655
51	$88824785x^2 - 124553318x + 41125489$	$[1, -1, 0, 1]$	$x^2 + x - 1$	-1	0.08520	0.1378
52	$-47699296x^2 + 336754570x - 165678807$	$[1, 1, -1, 1]$	$x^2 + 3x - 1$	-1	0.5477	0.6912
53	$343328377x^2 + 295629081x - 254503592$	$[1, 4, 2, 1]$	$-1/3x^2 - 1/3x + 2/3$	-1	0.2248	0.5150
54	$136524081x^2 - 461307888x + 206804296$	$[1, -1, 0, 1]$	$x^2 + 2x - 1$	-1	0.1410	0.1816
55	$-870880131x^2 + 206804296x + 136524081$	$[1, -2, -1, 1]$	$x$	-1	0.2673	0.2890
56	$-1007404212x^2 + 668112184x - 70280215$	$[0, -1, 1, 1]$	$-x^2 - 3x + 1$	0	0.3145	0.4544
57	$941160346x^2 + 1011440561x - 804636265$	$[1, -2, -1, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.2353	0.5880
58	$-66243866x^2 + 1679552745x - 874916480$	$[0, 1, 1, 1]$	$-x^2 - 2x + 1$	0	0.2254	0.2869
59	$-1878284343x^2 + 874916480x + 66243866$	$[1, 1, 0, 1]$	$-x$	1	0.1500	0.1827
60	$-1944528209x^2 + 2554469225x - 808672614$	$[0, 1, 1, 1]$	$-x^2 - 3x + 1$	0	0.2439	0.4097
61	$2686956957x^2 + 3495629571x - 2620713091$	$[1, 2, -1, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.3391	0.7299
62	$-3822812552x^2 + 3429385705x - 742428748$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.07493	0.1381
63	$-3080383804x^2 + 9479484501x - 4171814453$	$[1, 1, 1, 1]$	$-x^2 - 3x + 1$	-1	0.4052	0.5264
64	$11817439557x^2 + 8737055753x - 7994627005$	$[1, -4, 2, 1]$	$-1/3x^2 - 1/3x + 2/3$	-1	0.2487	0.4984
65	$-6903196356x^2 + 12908870206x - 4914243201$	$[1, 1, 0, 1]$	$-x^2 - 2x + 1$	-1	0.1031	0.1475
66	$-31629506119x^2 - 29640552964x + 24726309763$	$[1, -3, -1, 1]$	$x^2 + 2x - 1$	-1	0.2149	0.5349
67	$-8892149511x^2 + 47463666371x - 22737356608$	$[1, 3, 0, 1]$	$x^2 + 2x - 1$	-1	0.1680	0.2125
68	$74140114904x^2 - 22737356608x - 8892149511$	$[1, -2, -2, 1]$	$x$	-1	0.2182	0.2418
69	$83032264415x^2 - 70201022979x + 13845207097$	$[0, -1, 1, 1]$	$-x^2 - 3x + 1$	0	0.2406	0.4193
70	$-87985322001x^2 - 101830529098x + 79093172490$	$[1, -2, -1, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.2686	0.6312
71	$157172379319x^2 - 92938379587x + 4953057586$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.1183	0.1597
72	$152219321733x^2 - 264969931664x + 97891437173$	$[1, 1, 1, 1]$	$-x^2 - 3x + 1$	-1	0.2956	0.4335
73	$-255063816492x^2 - 352955253665x + 260016874078$	$[1, -3, 2, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.3893	0.8038
74	$309391701052x^2 - 357908311251x + 102844494759$	$[1, 1, 0, 1]$	$-x^2 - x + 1$	-1	0.07397	0.1353
75	$206547206293x^2 - 975833496580x + 460752806010$	$[1, 1, 1, 1]$	$-x^2 - 3x + 1$	-1	0.4835	0.6130
76	$-1079536208114x^2 - 872989001821x + 770144507062$	$[1, -4, 2, 1]$	$-1/3x^2 - 1/3x + 2/3$	-1	0.2337	0.5055
77	$515938907345x^2 - 1333741807831x + 563597300769$	$[1, 1, 0, 1]$	$-x^2 - 2x + 1$	-1	0.1239	0.1645
78	$2881558529866x^2 - 563597300769x - 515938907345$	$[1, -2, 1, 1]$	$-x$	-1	0.3077	0.3293
79	$-2929216923290x^2 - 2976875316714x + 2413278015945$	$[1, 2, -1, 1]$	$-x^2 - 2x + 2$	-1	0.2143	0.5627
80	$468280513921x^2 - 4874214425314x + 2460936409369$	$[1, 1, 1, 1]$	$-x^2 - 2x + 1$	-1	0.1996	0.2523

Number:  $\xi = .7693\dots$  Equation:  $x^3 + 3x^2 + x - 3 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-1/3x^2 - x + 2/3$	0	0.1775	0.3550
2	$-2x^2 - x + 2$	[2, -1, -2, 1]	$-1/6x^2 - 1/6$	-2	0.1883	0.4238
3	$3x^2 - x - 1$	[1, 3, -1, 2]	$x^2 + 2x - 2$	-1	0.05526	0.06754
4	$-10x^2 - 4x + 9$	[1, 4, -1, 1]	$x$	-1	0.4723	0.9305
5	$-13x^2 + 10x$	[1, -7, -1, 1]	$-x^2 - 2x + 2$	-1	0.1041	0.1657
6	$-13x^2 + 23x - 10$	[1, -1, 2, 1]	$-1/3x^2 - x + 2/3$	-1	0.09771	0.1474
7	$-23x^2 - 59x + 59$	[1, 6, -5, 1]	$1/2x^2 + x - 1/2$	-1	0.3634	0.7820
8	$-75x^2 + 20x + 29$	[1, 3, 1, 1]	$-x^2 + 1$	-1	0.2397	0.2926
9	$85x^2 + 62x - 98$	[1, -1, -1, 1]	$1/2x + 1/2$	-1	0.3620	0.7793
10	$127x^2 - 99x + 1$	[1, -2, 0, 1]	$-2x^2 - 3x + 4$	-1	0.3092	0.4971
11	$-160x^2 - 42x + 127$	[1, -1, 0, 1]	$1/3x$	-1	0.1258	0.2138
12	$-169x^2 + 260x - 100$	[1, -2, 0, 1]	$-x^2 - 2x + 2$	-1	0.04333	0.06805
13	$767x^2 + 69x - 507$	[1, -4, 0, 1]	$x$	-1	0.2901	0.4192
14	$936x^2 - 191x - 407$	[0, -1, 1, 1]	$-1/3x^2 - x + 2/3$	0	0.1296	0.1594
15	$360x^2 + 1656x - 1487$	[1, 6, 2, 1]	$1/2x^2 + x - 1/2$	-1	0.2292	0.4248
16	$-576x^2 + 1847x - 1080$	[0, -1, 1, 1]	$-x$	0	0.2193	0.3157
17	$-216x^2 + 3503x - 2567$	[0, -1, 2, 1]	$-1/3x^2 - x + 2/3$	0	0.2366	0.3646
18	$4151x^2 - 2351x - 648$	[1, 4, -1, 1]	$x$	1	0.2556	0.3438
19	$4367x^2 - 5854x + 1919$	[0, -1, 1, 1]	$-1/3x^2 - x + 2/3$	0	0.1525	0.2537
20	$7294x^2 + 4151x - 7510$	[1, 2, 2, 1]	$-1/2 - 1/2x$	1	0.2220	0.4991
21	$11661x^2 - 1703x - 5591$	[0, 1, 1, 1]	$-x^2 - 2x + 2$	0	0.06978	0.08731
22	$-36686x^2 - 17252x + 34983$	[1, -1, -5, 1]	$x$	-1	0.5313	1.132
23	$3888x^2 - 40571x + 28910$	[1, 6, 2, 1]	$2/3x^2 + x - 4/3$	-1	0.1101	0.1671
24	$52235x^2 - 25022x - 11664$	[1, -1, 1, 1]	$-x$	-1	0.1405	0.1797
25	$56123x^2 - 65593x + 17246$	[0, 1, 1, 1]	$-1/3x^2 - x + 2/3$	0	0.06642	0.1196
26	$-69481x^2 - 195085x + 191197$	[1, 5, -1, 1]	$-1/2x^2 - x + 1/2$	1	0.3321	0.6932
27	$220604x^2 - 221801x + 40074$	[1, 3, 0, 1]	$x^2$	1	0.2540	0.5136
28	$-290085x^2 + 26716x + 151123$	[0, 1, -1, 1]	$1/9x^2 + 2/3x + 1/9$	0	0.2997	0.3836
29	$-303443x^2 - 233962x + 359566$	[1, 2, -1, 1]	$-1/2 - 1/2x$	-1	0.4074	0.8699
30	$-82839x^2 - 455763x + 399640$	[1, 0, 1, 1]	$x^2 + x - 2$	-1	0.4181	0.7535
31	$-207246x^2 + 482479x - 248517$	[1, 0, -1, 1]	$x$	-1	0.3605	0.5226
32	$-593528x^2 - 207246x + 510689$	[1, 1, 1, 1]	$1/6x^2 + 1/6$	-1	0.1447	0.2695
33	$717935x^2 - 730996x + 137468$	[1, -1, -1, 1]	$x^2 + 2x - 2$	-1	0.02863	0.05725
34	$2884801x^2 + 580467x - 2153805$	[1, -4, 1, 1]	$-x$	-1	0.3430	0.5480
35	$3602736x^2 - 150529x - 2016337$	[0, 1, 1, 1]	$-1/3x^2 - x + 2/3$	0	0.1604	0.2110
36	$868464x^2 + 5339664x - 4621729$	[1, -6, 2, 1]	$1/2x^2 + x - 1/2$	1	0.1992	0.3537
37	$-2734272x^2 + 5490193x - 2605392$	[0, -1, 1, 1]	$-x$	0	0.1620	0.2386
38	$-1865808x^2 + 10829857x - 7227121$	[0, -1, 2, 1]	$-1/3x^2 - x + 2/3$	0	0.1890	0.2788
39	$16427281x^2 - 5361313x - 5597424$	[1, 4, -1, 1]	$x$	-1	0.3346	0.4090
40	$18293089x^2 - 16191170x + 1629697$	[0, -1, 1, 1]	$-1/3x^2 - x + 2/3$	0	0.1244	0.2229

41	$26388674x^2 + 16427281x - 28254482$	$[1, 2, 2, 1]$	$-1/2 - 1/2x$	-1	0.2626	0.5804
42	$-44681763x^2 - 236111x + 26624785$	$[0, -1, -1, 1]$	$x^2 + 2x - 2$	0	0.08563	0.1160
43	$71542659x^2 - 124533038x + 53462601$	$[2, 5, -2, 1]$	$x^2 + 2x - 3$	-2	0.5784	0.8759
44	$26860896x^2 - 124769149x + 80087386$	$[0, 1, 1, 1]$	$-1/6x^2 - 1/2x + 1/3$	0	0.08706	0.1270
45	$205351837x^2 - 53226490x - 80582688$	$[1, -7, 1, 2]$	$-x$	1	0.1814	0.2216
46	$232212733x^2 - 177995639x - 495302$	$[0, 1, 1, 1]$	$-1/3x^2 - x + 2/3$	0	0.06957	0.1105
47	$-204856535x^2 - 641925803x + 615064907$	$[1, 5, -2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.3005	0.6070
48	$-27356198x^2 + 819921442x - 614569605$	$[0, -1, -1, 1]$	$x$	0	0.3772	0.5895
49	$901990036x^2 - 587213407x - 82068594$	$[1, 3, 0, 1]$	$x$	-1	0.3511	0.5029
50	$-1106846571x^2 - 54712396x + 697133501$	$[1, 0, -1, 1]$	$1/9x^2 + 2/3x + 1/9$	-1	0.3647	0.5102
51	$1079490373x^2 + 874633838x - 1311703106$	$[1, 0, -1, 1]$	$1/2x + 1/2$	-1	0.4531	0.9614
52	$929346234x^2 - 1407134849x + 532501011$	$[1, -1, -1, 1]$	$-2x^2 - 3x + 3$	-1	0.2563	0.4048
53	$-2186336944x^2 - 929346234x + 2008836607$	$[1, -1, 0, 1]$	$-1/6x^2 - 1/6$	-1	0.1641	0.3324
54	$2938182841x^2 - 1939635860x - 246701084$	$[1, 2, 0, 1]$	$x^2 + 2x - 2$	-1	0.03865	0.05577
55	$-10754184383x^2 - 3184883925x + 8814548523$	$[1, 4, -1, 1]$	$x$	-1	0.3984	0.7009
56	$-13692367224x^2 - 1245248065x + 9061249607$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 2/3$	0	0.1937	0.2801
57	$-11999432448x^2 + 15832988711x - 5078804328$	$[1, -7, -1, 1]$	$-1/2x^2 - x + 3/2$	-1	0.1126	0.1889
58	$-10306497672x^2 + 32911225487x - 19218858263$	$[0, -1, 2, 1]$	$-1/3x^2 - x + 2/3$	0	0.1459	0.2100
59	$-63830718503x^2 + 8912360591x + 30919493016$	$[1, 3, 1, 1]$	$-x$	-1	0.4222	0.5295
60	$-74137216175x^2 + 41823586078x + 11700634753$	$[0, 1, 1, 1]$	$-1/3x^2 - x + 2/3$	0	0.1708	0.2294
61	$95049009214x^2 + 63830718503x - 105355506886$	$[1, 2, -2, 1]$	$1/2x + 1/2$	1	0.3051	0.6655
62	$-117056141639x^2 + 156390251250x - 51034744364$	$[1, 2, 1, 1]$	$2x^2 + 3x - 4$	1	0.3419	0.5699
63	$-169186225389x^2 - 22007132425x + 117056141639$	$[1, -1, 0, 1]$	$-1/3x$	1	0.1026	0.1535
64	$-308249499453x^2 + 354604088578x - 90368853975$	$[1, 2, 1, 1]$	$-x^2 - 2x + 3$	1	0.3920	0.7136
65	$-139063274064x^2 + 376611221003x - 207424995614$	$[0, -1, 1, 1]$	$-1/6x^2 - 1/2x + 1/3$	0	0.06630	0.09545
66	$-793801043195x^2 + 68361721550x + 417189822192$	$[1, 4, 0, 1]$	$-x$	1	0.2266	0.2909
67	$-932864317259x^2 + 444972942553x + 209764826578$	$[0, 1, 1, 1]$	$-1/3x^2 - x + 2/3$	0	0.09385	0.1199
68	$584036216617x^2 + 2100936750493x - 1961873476429$	$[1, 5, -2, 1]$	$-1/2x^2 - x + 1/2$	-1	0.2690	0.5244
69	$-348828100642x^2 + 2545909693046x - 1752108649851$	$[0, 1, 1, 1]$	$-x$	0	0.3039	0.4536
70	$-3592393994972x^2 + 1403280549209x + 1046484301926$	$[1, 3, 0, 1]$	$-x$	1	0.4655	0.5760
71	$-3941222095614x^2 + 3949190242255x - 705624347925$	$[0, 1, 1, 1]$	$-1/3x^2 - x + 2/3$	0	0.1687	0.3421
72	$8004032322536x^2 + 3941222095614x - 7768824206561$	$[2, 1, -2, 1]$	$-1/6x^2 - 1/6$	-2	0.1839	0.4017
73	$-11710046302175x^2 + 4654814590180x + 3349217732356$	$[1, 3, -1, 2]$	$x^2 + 2x - 2$	-1	0.05132	0.06362
74	$-38479356638881x^2 + 39046929479997x - 7266008305828$	$[1, 3, 5, 1]$	$-x^2 - 3x + 2$	-1	0.5133	1.030
75	$39784953496705x^2 + 15059264034531x - 35130138906525$	$[1, -6, 1, 1]$	$-1/6x^2 - 1/3x - 1/2$	-1	0.4557	0.8763
76	$-50189402941056x^2 + 43701744070177x - 3916790573472$	$[1, 1, 0, 1]$	$x^2 + 2x - 2$	-1	0.09456	0.1668
77	$-48883806083232x^2 + 97807937584705x - 46312937785825$	$[1, 1, 1, 1]$	$-1/3x^2 - x + 2/3$	-1	0.1077	0.1587
78	$96502340726881x^2 + 241888487536994x - 243194084394818$	$[1, -6, 5, 1]$	$-1/2x^2 - x + 1/2$	-1	0.3763	0.8079
79	$-293343161917633x^2 + 95237069287298x + 100338480463871$	$[1, 3, -1, 1]$	$x^2 - 1$	-1	0.2235	0.2732
80	$340961696561282x^2 + 244459355834401x - 389845502644514$	$[1, 1, -1, 1]$	$1/2x + 1/2$	-1	0.3492	0.7536

Number:  $\xi = .6717\dots$  Equation:  $x^3 + 3x^2 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-1/9x^2 - 2/9$	-1	0.1229	0.3686
2	$-2x^2 + 1$	$[1, -1, 1, 1]$	$-x^2 - 2x + 1$	-1	0.3906	0.4882
3	$3x^2 - 2x$	$[1, 2, -2, 1]$	$3/7x^2 + \frac{8}{7}x - 6/7$	-1	0.09128	0.1319
4	$3x^2 - 5x + 2$	$[1, 1, 2, 1]$	$-1/3x^2 - x + 1/3$	-1	0.1239	0.1884
5	$-8x^2 - 11x + 11$	$[1, -7, 5, 1]$	$-1/3x^2 - 1/3x$	-1	0.2245	0.5678
6	$9x^2 - 12x + 4$	$[1, 2, 0, 1]$	$x^2 + x - 1$	-1	0.03283	0.05495
7	$-39x^2 - 14x + 27$	$[1, 3, -2, 1]$	$x$	-1	0.2329	0.3746
8	$-48x^2 - 2x + 23$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 1/3$	0	0.1725	0.2124
9	$-80x^2 + 85x - 21$	$[1, -8, 0, 1]$	$-2/3x^2 - 5/3x + 1$	-1	0.2273	0.4425
10	$-55x^2 - 103x + 94$	$[1, 2, -1, 1]$	$-2/3 - 1/3x$	-1	0.2972	0.6295
11	$-135x^2 - 18x + 73$	$[0, 1, 1, 1]$	$-x^2 - x + 1$	0	0.06274	0.08220
12	$387x^2 + 343x - 405$	$[1, -2, -5, 1]$	$x$	1	0.3793	0.9977
13	$-226x^2 + 457x - 205$	$[1, 7, 2, 1]$	$2/3x^2 + x - 2/3$	1	0.1477	0.2135
14	$-296x^2 - 818x + 683$	$[1, -1, -1, 1]$	$1/3x^2 + 2/3x$	1	0.2831	0.5175
15	$1065x^2 - 1028x + 210$	$[1, -3, 0, 1]$	$x^2$	1	0.2165	0.4266
16	$1431x^2 + 1065x - 1361$	$[1, -2, 1, 1]$	$1/9x^2 + 2/9$	1	0.1065	0.2617
17	$-2426x^2 + 1238x + 263$	$[1, -2, 0, 1]$	$x^2 + 2x - 1$	1	0.2431	0.3093
18	$-3857x^2 + 173x + 1624$	$[0, -1, 1, 1]$	$-1/7x^2 - 5/7x + 2/7$	0	0.1589	0.1873
19	$-802x^2 - 5461x + 4030$	$[1, -3, -1, 1]$	$1/3x^2 + 2/3x$	1	0.1905	0.2984
20	$3055x^2 - 5634x + 2406$	$[0, -1, 1, 1]$	$-x$	0	0.1362	0.2011
21	$2253x^2 - 11095x + 6436$	$[0, -1, 2, 1]$	$-1/3x^2 - x + 1/3$	0	0.2582	0.3557
22	$-12546x^2 - 14799x + 15601$	$[1, 2, 3, 1]$	$-1/3x^2 - 1/3x$	-1	0.1910	0.4865
23	$20107x^2 - 13025x - 323$	$[1, 2, -1, 1]$	$x^2 + x - 2$	-1	0.2783	0.3952
24	$7561x^2 - 27824x + 15278$	$[0, 1, 1, 1]$	$-2/9x^2 - 5/9x + 1/3$	0	0.07467	0.1027
25	$-50507x^2 + 156x + 22683$	$[1, 1, -2, 1]$	$x$	1	0.1653	0.1986
26	$-58068x^2 + 27980x + 7405$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 1/3$	0	0.1068	0.1333
27	$-93609x^2 - 151677x + 144116$	$[1, 5, 3, 1]$	$1/3x^2 + 1/3x$	1	0.2727	0.6227
28	$-166643x^2 + 56116x + 37493$	$[1, 2, 0, 1]$	$-x^2 - x + 1$	1	0.04044	0.04708
29	$556045x^2 + 370779x - 499929$	$[1, -3, -2, 1]$	$x$	1	0.3025	0.6815
30	$-704065x^2 + 611914x - 93362$	$[1, 7, 1, 1]$	$2/3x^2 + x - 5/3$	1	0.3366	0.5968
31	$-722688x^2 - 314663x + 537422$	$[1, -1, 0, 1]$	$-1/13x^2 - \frac{7}{13}x - \frac{4}{13}$	1	0.2497	0.4352
32	$-148020x^2 + 982693x - 593291$	$[1, 1, 0, 1]$	$-1/3x^2 - 1/3x + 1$	1	0.2889	0.4008
33	$574668x^2 + 1297356x - 1130713$	$[0, -1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.3012	0.5891
34	$-1574773x^2 + 1279944x - 149231$	$[1, 1, 1, 1]$	$x^2 - 1$	1	0.2436	0.4067
35	$2001421x^2 + 1000105x - 1574773$	$[1, 1, -1, 1]$	$1/3x$	1	0.08809	0.1646
36	$-2574878x^2 + 3857244x - 1429175$	$[1, 2, 0, 1]$	$x^2 + 2x - 1$	1	0.2600	0.4115
37	$-4576299x^2 + 2857139x + 145598$	$[0, -1, 1, 1]$	$-1/7x^2 - 5/7x + 2/7$	0	0.09461	0.1316
38	$-2429280x^2 - 9434859x + 7433438$	$[1, -3, -2, 1]$	$1/3x^2 + 2/3x$	1	0.2405	0.4058
39	$2147019x^2 - 12291998x + 7287840$	$[0, -1, 1, 1]$	$-x$	0	0.2743	0.3790
40	$-18733055x^2 + 2993802x + 6441057$	$[1, 3, 1, 1]$	$x$	1	0.4279	0.4894

41	$-20880074x^2 + 15285800x - 846783$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 1/3$	0	0.2598	0.3995
42	$-19015316x^2 - 18733055x + 21162335$	$[1, 1, 1, 1]$	$-1/3 - 1/3x$	1	0.1487	0.3853
43	$-20597813x^2 + 37012657x - 15568061$	$[1, 1, -1, 1]$	$-x^2 - x + 2$	1	0.3990	0.5932
44	$-39895390x^2 - 3447255x + 20315552$	$[1, 1, 0, 1]$	$-1/9x^2 - \frac{7}{9}x - 1/3$	1	0.4200	0.5320
45	$1582497x^2 - 55745712x + 36730396$	$[1, -1, 0, 1]$	$2/7x^2 + 3/7x - 4/7$	1	0.1268	0.1820
46	$-60493203x^2 + 33565402x + 4747491$	$[1, 1, 0, 1]$	$x$	1	0.1003	0.1318
47	$-62075700x^2 + 89311114x - 31982905$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 1/3$	0	0.1069	0.1722
48	$-184644603x^2 + 212187630x - 59218319$	$[0, -2, 3, 1]$	$-1/3x^2 - 4/3x + 1$	0	0.02774	0.05091
49	$-271405949x^2 - 1678222543x + 1249715018$	$[5, 31, 2, 1]$	$x^2 + 2x - 1$	-5	1.379	2.179
50	$-766121439x^2 - 310070887x + 553933809$	$[1, 16, 3, 5]$	$-2/7x^2 - 3/7x - 3/7$	-1	0.2429	0.4097
51	$-950766042x^2 - 97883257x + 494715490$	$[1, 0, 1, 1]$	$-1/3x^2 - x + 1/3$	-1	0.1828	0.2343
52	$1630126135x^2 - 1482456029x + 260284038$	$[1, 0, -2, 1]$	$2/3x^2 + 5/3x - 1$	-1	0.2259	0.4185
53	$-1037527388x^2 - 1988293430x + 1803648827$	$[1, 2, 1, 1]$	$1/3x + 2/3$	-1	0.2993	0.6271
54	$2667653523x^2 + 505837401x - 1543364789$	$[0, 1, -1, 1]$	$x^2 + x - 1$	0	0.06621	0.09075
55	$7497123168x^2 + 6878671835x - 8002960569$	$[1, 2, -5, 1]$	$-x$	1	0.4002	1.047
56	$-4716855713x^2 + 8228188433x - 3398718788$	$[1, -7, 2, 1]$	$2/3x^2 + x - 2/3$	1	0.1294	0.1940
57	$5447920978x^2 + 15612697669x - 12945044146$	$[1, 1, 1, 1]$	$-1/3x^2 - 2/3x$	1	0.2787	0.5042
58	$21647690307x^2 - 17805893464x + 2193195795$	$[1, -3, 0, 1]$	$-x^2$	1	0.2417	0.4077
59	$27826676550x^2 + 21647690307x - 27095611285$	$[1, 2, 1, 1]$	$1/9x^2 + 2/9$	1	0.1088	0.2777
60	$48743301592x^2 - 19999089259x - 8558652556$	$[1, 2, 0, 1]$	$-x^2 - 2x + 1$	1	0.2652	0.3180
61	$76569978142x^2 + 1648601048x - 35654263841$	$[0, 1, 1, 1]$	$-1/7x^2 - 5/7x + 2/7$	0	0.1692	0.2059
62	$63480940391x^2 - 101099452596x + 39267113253$	$[1, -2, 2, 1]$	$-1/3x^2 - 2/3x + 1$	-1	0.1185	0.1831
63	$50391902640x^2 - 203847506240x + 114188490347$	$[0, -1, 2, 1]$	$-1/3x^2 - x + 1/3$	0	0.2355	0.3238
64	$241150371129x^2 + 291542273769x - 304631311520$	$[1, 5, -3, 1]$	$1/3x^2 + 1/3x$	-1	0.1968	0.5005
65	$405415116800x^2 - 217252191307x - 36987217573$	$[1, 2, 1, 1]$	$-x^2 - x + 2$	-1	0.3058	0.3961
66	$164264745671x^2 - 508794465076x + 267644093947$	$[0, -1, 1, 1]$	$-2/9x^2 - 5/9x + 1/3$	0	0.06747	0.09318
67	$-1001588702089x^2 - 60885397395x + 492794237013$	$[1, -1, -2, 1]$	$x$	-1	0.1756	0.2188
68	$-1165853447760x^2 + 447909067681x + 225150143066$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 1/3$	0	0.1163	0.1378
69	$-1778027261112x^2 - 2943880708872x + 2779615963201$	$[1, 5, 3, 1]$	$1/3x^2 + 1/3x$	-1	0.2776	0.6263
70	$-3333295597609x^2 + 834932737967x + 943094523145$	$[1, 2, 0, 1]$	$-x^2 - x + 1$	-1	0.04373	0.04997
71	$10834819530794x^2 + 7609685718363x - 9999886792827$	$[1, -3, -2, 1]$	$x$	-1	0.3103	0.7278
72	$14168115128403x^2 + 6774752980396x - 10942981315972$	$[0, -1, 1, 1]$	$-1/3x^2 - x + 1/3$	0	0.2594	0.4734
73	$-3441457382787x^2 + 18120019893623x - 10618495960438$	$[1, 7, 2, 1]$	$1/3x^2 + 1/3x - 1$	-1	0.2654	0.3662
74	$10726657745616x^2 + 24894772874019x - 21561477276410$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x$	0	0.2997	0.5802
75	$31885849424771x^2 - 21855601088487x + 294123812077$	$[1, 1, -2, 1]$	$-x^2 + 1$	1	0.2699	0.3967
76	$39171049787600x^2 + 21159191679155x - 31885849424771$	$[1, 1, 1, 1]$	$-1/3x$	1	0.09118	0.1782
77	$-53045041103926x^2 + 68605975050993x - 22149724900564$	$[1, -2, 0, 1]$	$x^2 + 2x - 1$	1	0.2223	0.3783
78	$-92216090891526x^2 + 47446783371838x + 9736124524207$	$[0, -1, 1, 1]$	$-1/7x^2 - 5/7x + 2/7$	0	0.1038	0.1324
79	$43308916579719x^2 + 178833924050964x - 139662874263364$	$[1, 3, 2, 1]$	$-1/3x^2 - 2/3x$	1	0.2335	0.3897
80	$-48907174311807x^2 + 226280707422802x - 129926749739157$	$[0, 1, 1, 1]$	$-x$	0	0.2512	0.3457

Number:  $\xi = .5214\dots$  Equation:  $x^3 + 3x^2 + 2x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$1/2 x + 1/2$	-1	0.2068	0.6204
2	$-2x^2 + x$	[1, -2, 0, 1]	$-2x^2 - 3x + 2$	-1	0.08918	0.1115
3	$-2x^2 + 3x - 1$	[1, -1, 2, 1]	$-1/2 x^2 - 3/2 x$	-1	0.1842	0.2865
4	$-4x^2 + 4x - 1$	[0, 1, 1, 1]	$-1/4 x^2 - x + 1/2$	0	0.02925	0.06034
5	$-16x^2 - 7x + 8$	[2, 13, -6, 1]	$-x$	2	0.2440	0.3518
6	$-20x^2 - 3x + 7$	[0, 1, 1, 1]	$-1/2 x^2 - 3/2 x$	0	0.3500	0.4008
7	$-15x^2 + 27x - 10$	[1, 11, -1, 2]	$-1/2 x^2 - x + 1$	-1	0.2186	0.3161
8	$-36x^2 - 10x + 15$	[1, 1, 0, 1]	$-1/2 x$	-1	0.1013	0.1267
9	$61x^2 - 74x + 22$	[1, -3, -1, 1]	$x^2 + 2x - 2$	-1	0.2934	0.5188
10	$25x^2 - 84x + 37$	[0, 1, 1, 1]	$-1/4 x^2 - 3/4 x$	0	0.1735	0.2226
11	$-159x^2 - 13x + 50$	[1, 4, 0, 1]	$x$	1	0.3242	0.3584
12	$-184x^2 + 71x + 13$	[0, -1, 1, 1]	$-1/2 x^2 - 3/2 x$	0	0.3985	0.4599
13	$-232x^2 - 184x + 159$	[1, 1, 2, 1]	$1/8 x^2 + 1/4$	1	0.1799	0.3776
14	$-343x^2 + 58x + 63$	[1, 1, 0, 1]	$-x^2 - 2x + 1$	1	0.1237	0.1314
15	$169x^2 + 681x - 401$	[1, -3, 1, 1]	$-1/2 x^2 - x$	1	0.3206	0.4515
16	$-174x^2 + 739x - 338$	[0, 1, 1, 1]	$-x$	0	0.1968	0.2489
17	$-1261x^2 - 10x + 348$	[1, 3, 0, 1]	$-x$	-1	0.2988	0.3216
18	$1256x^2 + 1430x - 1087$	[1, 1, -1, 1]	$1/2 x + 1/2$	-1	0.2923	0.6867
19	$-179x^2 + 2159x - 1077$	[1, 1, 1, 1]	$x^2 + x - 1$	-1	0.1378	0.1730
20	$-2696x^2 + 719x + 358$	[1, -1, 1, 1]	$-x$	-1	0.1120	0.1220
21	$-2875x^2 + 2878x - 719$	[0, 1, 1, 1]	$-1/2 x^2 - 3/2 x$	0	0.1172	0.2414
22	$-5571x^2 + 3597x - 361$	[0, 1, 2, 1]	$-1/4 x^2 - x + 1/2$	0	0.03923	0.05574
23	$20310x^2 + 10781x - 11142$	[2, 6, -7, 1]	$x$	-2	0.2718	0.4302
24	$25881x^2 + 7184x - 10781$	[0, -1, 1, 1]	$-1/2 x^2 - 3/2 x$	0	0.4052	0.5067
25	$-21923x^2 + 26613x - 7916$	[1, 11, 1, 2]	$1/2 x^2 + x - 1$	-1	0.1468	0.2595
26	$46191x^2 + 17965x - 21923$	[1, 1, 0, 1]	$1/2 x$	-1	0.1153	0.1587
27	$-86079x^2 + 69058x - 12606$	[1, 3, -1, 1]	$x^2 + 2x - 2$	-1	0.2745	0.4570
28	$-39888x^2 + 87023x - 34529$	[0, 1, 1, 1]	$-1/4 x^2 - 3/4 x$	0	0.1288	0.1761
29	$-80720x^2 - 201328x + 126911$	[1, -5, -2, 1]	$1/2 x^2 + x$	1	0.4530	0.7058
30	$-206687x^2 - 45247x + 79776$	[1, 1, 1, 1]	$-x^2 - x$	1	0.3787	0.4532
31	$-165855x^2 + 243104x - 81664$	[1, -1, 1, 1]	$-1/2 x^2 - x + 1$	1	0.1795	0.2834
32	$-287407x^2 - 246575x + 206687$	[1, 1, 0, 1]	$-1/2 - 1/2 x$	1	0.1909	0.4301
33	$453262x^2 + 3471x - 125023$	[0, -1, -1, 1]	$x^2 + 2x - 1$	0	0.1494	0.1607
34	$290878x^2 - 774559x + 324768$	[1, -3, 0, 1]	$-1/2 x^2 - x + 1$	1	0.1495	0.1968
35	$128494x^2 - 1552589x + 774559$	[0, -1, 2, 1]	$-1/2 x^2 - 3/2 x$	0	0.5513	0.6923
36	$-1647193x^2 - 256988x + 581756$	[1, -3, 0, 1]	$-1/4 x^2 - 1/2$	1	0.3524	0.4050
37	$-1518699x^2 - 1809577x + 1356315$	[0, 1, 1, 1]	$-1/2 - 1/2 x$	0	0.3236	0.7332
38	$419372x^2 - 2327148x + 1099327$	[1, 1, 0, 1]	$x^2 + x - 1$	-1	0.1107	0.1389
39	$-3585264x^2 + 260583x + 838744$	[1, 1, -1, 1]	$x$	-1	0.1369	0.1452
40	$-4004636x^2 + 2587731x - 260583$	[0, -1, 1, 1]	$-1/2 x^2 - 3/2 x$	0	0.1568	0.2230



41	$-7589900x^2 + 2848314x + 578161$	$[0, -1, 2, 1]$	$-1/4x^2 - x + 1/2$	0	0.05033	0.05771
42	$23347861x^2 - 21990259x + 5118467$	$[1, 8, -6, 1]$	$x^2 + 3x - 1$	1	0.3981	0.7705
43	$-25618014x^2 - 15757961x + 15179800$	$[1, 9, 2, 1]$	$-2/13x^2 - 3/13x - \frac{6}{13}$	1	0.2989	0.5170
44	$-30937761x^2 + 24838573x - 4540306$	$[1, -1, 0, 1]$	$-x^2 - 2x + 1$	1	0.1372	0.2285
45	$-58825928x^2 - 28667608x + 30937761$	$[1, 2, 1, 1]$	$-1/2x$	1	0.1293	0.1957
46	$-59605369x^2 + 87425366x - 29378879$	$[1, 3, -1, 1]$	$-x^2 - 2x + 1$	1	0.08983	0.1417
47	$-88204807x^2 - 236014983x + 147030735$	$[1, 3, -2, 1]$	$1/2x^2 + x$	1	0.4303	0.6574
48	$-237642035x^2 + 233608490x - 57198876$	$[1, 3, 0, 1]$	$-x^2$	1	0.1186	0.2401
49	$354446280x^2 + 325846842x - 266241473$	$[1, -2, -1, 1]$	$1/2x + 1/2$	1	0.2007	0.4835
50	$592088315x^2 + 92238352x - 209042597$	$[0, -1, 1, 1]$	$-x^2 - 2x + 1$	0	0.1762	0.2024
51	$-446684632x^2 + 790657329x - 290807366$	$[1, 3, 1, 1]$	$1/2x^2 + x - 1$	1	0.1077	0.1566
52	$-301280949x^2 + 1673553010x - 790657329$	$[0, 1, 2, 1]$	$-1/2x^2 - 3/2x$	0	0.4428	0.5560
53	$2130711225x^2 + 602561898x - 893369264$	$[1, 3, 0, 1]$	$-1/4x^2 - 1/2$	-1	0.4076	0.5119
54	$1829430276x^2 + 2276114908x - 1684026593$	$[0, 1, 1, 1]$	$-1/2 - 1/2x$	0	0.3539	0.7762
55	$-747965581x^2 + 2464210339x - 1081464695$	$[1, 1, 0, 1]$	$x^2 + x - 1$	1	0.08577	0.1102
56	$4708107082x^2 + 414466467x - 1495931162$	$[1, 1, -1, 1]$	$x$	1	0.1632	0.1810
57	$5456072663x^2 - 2049743872x - 414466467$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x$	0	0.2012	0.2308
58	$10164179745x^2 - 1635277405x - 1910397629$	$[0, -1, 2, 1]$	$-1/4x^2 - x + 1/2$	0	0.06239	0.06621
59	$32127816640x^2 + 22238757119x - 20328359490$	$[2, 6, 7, 1]$	$-x$	-2	0.3250	0.6109
60	$275120224x^2 - 41741755937x + 21688516671$	$[1, 9, -3, 2]$	$-1/2x^2 - 1/2x + 1$	-1	0.3310	0.4204
61	$42567116609x^2 - 21138276223x - 550240448$	$[1, 1, 1, 1]$	$-x$	-1	0.1795	0.2238
62	$42842236833x^2 - 62880032160x + 21138276223$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x$	0	0.3596	0.5671
63	$74419813025x^2 + 42842236833x - 42567116609$	$[1, -1, 1, 1]$	$1/8x^2 + 1/4$	1	0.1430	0.2372
64	$85409353442x^2 - 84018308383x + 20588035775$	$[1, 1, 0, 1]$	$-x^2 - 2x + 1$	1	0.05926	0.1201
65	$-95007848800x^2 - 275425051042x + 169427661825$	$[1, -3, 1, 1]$	$-1/2x^2 - x$	1	0.4051	0.6066
66	$330647873351x^2 - 209212688316x + 19196990716$	$[1, 3, 0, 1]$	$x^2$	1	0.1587	0.2228
67	$-435254217509x^2 - 425655722151x + 340246368709$	$[1, 2, -1, 1]$	$1/2x + 1/2$	1	0.2092	0.5371
68	$-765902090860x^2 - 216443033835x + 321049377993$	$[0, -1, 1, 1]$	$-x^2 - 2x + 1$	0	0.2038	0.2559
69	$-651697251344x^2 + 777868736057x - 228409679032$	$[1, -3, -1, 1]$	$-1/2x^2 - x + 1$	1	0.07203	0.1288
70	$-537492411828x^2 + 1772180505949x - 777868736057$	$[0, -1, 2, 1]$	$-1/2x^2 - 3/2x$	0	0.3432	0.4409
71	$-1189189663172x^2 + 2550049242006x - 1006278415089$	$[0, -1, 3, 1]$	$-1/4x^2 - x + 1/2$	0	0.06349	0.08718
72	$-6117618231522x^2 - 1372100911255x + 2378379326344$	$[2, 6, 1, 1]$	$-x$	-2	0.1905	0.2289
73	$-7306807894694x^2 + 1177948330751x + 1372100911255$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/2x$	0	0.2495	0.2648
74	$13424426126216x^2 + 194152580504x - 3750480237599$	$[0, -1, -2, 1]$	$1/4x^2 + x - 1/2$	0	0.07524	0.08112
75	$40079125798144x^2 + 30599332490031x - 26848852252432$	$[1, 7, -8, 1]$	$-x$	2	0.3496	0.7104
76	$-3944632818103x^2 + 45614286288154x - 22710066853825$	$[1, -9, 3, 2]$	$1/2x^2 + 1/2x - 1$	1	0.2733	0.3430
77	$57448184742463x^2 - 14820801217619x - 7889265636206$	$[1, 1, -1, 1]$	$x$	1	0.2260	0.2453
78	$61392817560566x^2 - 60435087505773x + 14820801217619$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/2x$	0	0.2369	0.4803
79	$93582677722504x^2 + 61392817560566x - 57448184742463$	$[1, 1, 1, 1]$	$1/8x^2 + 1/4$	1	0.1563	0.2825
80	$118841002303029x^2 - 75255888723392x + 6931535581413$	$[1, 1, 0, 1]$	$-x^2 - 2x + 1$	1	0.07931	0.1114

Number:  $\xi = .3247\dots$  Equation:  $x^3 + 3x^2 + 2x - 1 = 0$ . "All" optimal polynomials.

1	$3x^2 - x$	$[0, -1, 3, 1]$	$-x^2 - 3x + 1$	0	0.07553	0.08393
2	$9x^2 - 6x + 1$	$[1, -6, 9, 1]$	$-x^2 - 3x + 1$	-1	0.05411	0.07883
3	$-26x^2 + 30x - 7$	$[1, 12, -7, 1]$	$x^2 + 3x - 1$	-1	0.04785	0.08640
4	$108x^2 + 45x - 26$	$[3, 37, 9, 1]$	$x$	-3	0.2014	0.2480
5	$71x^2 - 137x + 37$	$[1, -12, -1, 3]$	$-x^2 - 2x + 1$	-1	0.07943	0.1066
6	$-350x^2 - 105x + 71$	$[1, -3, 0, 1]$	$x$	-1	0.1683	0.1904
7	$-176x^2 + 593x - 174$	$[1, -4, 0, 1]$	$-x^2 - 2x + 1$	-1	0.1185	0.1391
8	$1121x^2 + 178x - 176$	$[1, -3, 0, 1]$	$x$	-1	0.1375	0.1443
9	$354x^2 - 2477x + 767$	$[1, -4, 0, 1]$	$-x^2 - 2x + 1$	-1	0.1645	0.1836
10	$-3539x^2 + 59x + 354$	$[1, -3, 0, 1]$	$x$	-1	0.1090	0.1102
11	$3244x^2 + 10027x - 3598$	$[1, -4, -1, 1]$	$-x^2 - 2x$	-1	0.6608	0.8151
12	$-295x^2 + 10086x - 3244$	$[0, 1, 1, 1]$	$-x$	0	0.2171	0.2398
13	$10971x^2 - 2654x - 295$	$[1, -3, 0, 1]$	$x$	1	0.08341	0.08836
14	$33208x^2 - 18048x + 2359$	$[0, -1, 3, 1]$	$-x^2 - 3x + 1$	0	0.06083	0.07910
15	$-97265x^2 + 94429x - 20407$	$[1, 6, -9, 1]$	$x^2 + 3x - 1$	1	0.04154	0.08252
16	$386224x^2 + 174123x - 97265$	$[3, 37, 9, 1]$	$x$	3	0.2127	0.2694
17	$271388x^2 - 441773x + 114836$	$[1, -12, -1, 3]$	$-x^2 - 2x + 1$	1	0.06820	0.09855
18	$-1255937x^2 - 427940x + 271388$	$[1, -3, 0, 1]$	$x$	1	0.1790	0.2081
19	$-699328x^2 + 1941215x - 556609$	$[1, -4, 0, 1]$	$-x^2 - 2x + 1$	1	0.1048	0.1270
20	$4039199x^2 + 842047x - 699328$	$[1, -3, 0, 1]$	$x$	1	0.1474	0.1582
21	$1541375x^2 - 8192800x + 2497824$	$[1, -4, 0, 1]$	$-x^2 - 2x + 1$	1	0.1486	0.1677
22	$-12816925x^2 - 584926x + 1541375$	$[1, -3, 0, 1]$	$x$	1	0.1181	0.1201
23	$-2126301x^2 + 33613247x - 10690624$	$[1, -4, 0, 1]$	$-x^2 - 2x + 1$	1	0.1991	0.2201
24	$39992150x^2 - 6438022x - 2126301$	$[1, -3, 0, 1]$	$x$	1	0.09152	0.09415
25	$122102751x^2 - 52927313x + 4311721$	$[0, -1, 3, 1]$	$-x^2 - 3x + 1$	0	0.06791	0.08075
26	$361996532x^2 - 293819853x + 57239034$	$[1, -7, 9, 1]$	$-x^2 - 3x + 1$	1	0.04751	0.08000
27	$1379809449x^2 + 666754030x - 361996532$	$[3, 37, -9, 1]$	$-x$	3	0.2241	0.2919
28	$1028750562x^2 - 1415173193x + 351058887$	$[1, 12, -1, 3]$	$-x^2 - 2x + 1$	1	0.05779	0.09189
29	$4501424879x^2 + 1706442237x - 1028750562$	$[1, 3, 0, 1]$	$-x$	1	0.1899	0.2271
30	$-2735192799x^2 + 6327446802x - 1766232080$	$[1, -4, 0, 1]$	$x^2 + 2x - 1$	1	0.09196	0.1163
31	$14533025199x^2 + 3704153518x - 2735192799$	$[1, 3, 0, 1]$	$x$	1	0.1575	0.1733
32	$-6439346317x^2 + 27016229445x - 8093678882$	$[1, 4, 0, 1]$	$x^2 + 2x - 1$	1	0.1334	0.1530
33	$-46334268396x^2 - 4785013752x + 6439346317$	$[1, -3, 0, 1]$	$-x$	1	0.1275	0.1313
34	$-11224360069x^2 + 111769071298x - 35109908327$	$[1, 4, 0, 1]$	$-x^2 - 2x + 1$	1	0.1818	0.2016
35	$-145442151505x^2 + 12661188189x + 11224360069$	$[1, 3, 0, 1]$	$-x$	1	0.09996	0.1013
36	$-146878979625x^2 - 439200110755x + 158103339694$	$[1, -4, 1, 1]$	$x^2 + 2x$	1	0.6881	0.8542
37	$-447550814584x^2 + 149752635865x - 1436828120$	$[1, 3, 0, 1]$	$-x^2$	1	0.07534	0.08377
38	$-1341215615632x^2 + 901119206539x - 151189463985$	$[1, -1, 3, 1]$	$-x^2 - 3x + 1$	1	0.05385	0.07885
39	$3872457382911x^2 - 4498141627204x + 1052308670524$	$[1, 9, -6, 1]$	$x^2 + 3x - 1$	1	0.04821	0.08658
40	$-16115513775937x^2 - 6692606095298x + 3872457382911$	$[3, 37, 9, 1]$	$x$	3	0.2010	0.2472

41	$-10565063478209x^2 + 20523808276095x - 5550450297728$	$[1, -12, -1, 3]$	$-x^2 - 2x$
42	$52218998710722x^2 + 15579676658690x - 10565063478209$	$[1, -3, 0, 1]$	$x$
43	$26144740136899x^2 - 88787839199678x + 26074258573823$	$[1, -4, 0, 1]$	$-x^2 - 2x$
44	$-167222059610375x^2 - 26215221699975x + 26144740136899$	$[1, -3, 0, 1]$	$x$
45	$-52359961836874x^2 + 370731033457402x - 114862097773501$	$[1, -4, 0, 1]$	$-x^2 - 2x$
46	$527810918968024x^2 - 10142174099753x - 52359961836874$	$[1, -3, 0, 1]$	$x$
47	$-485593131230903x^2 - 1498997181429830x + 537953093067777$	$[1, -4, -1, 1]$	$-x^2 - 2x$
48	$42217787737121x^2 - 1509139355529583x + 485593131230903$	$[0, 1, 1, 1]$	$-x$
49	$-1635792718740946x^2 + 401157555756661x + 42217787737121$	$[1, -3, 0, 1]$	$x$
50	$-4949595943959959x^2 + 2712612022799566x - 358939768019540$	$[0, -1, 3, 1]$	$-x^2 - 3x$
51	$14489848063860337x^2 - 14164251316417277x + 3071551790819106$	$[1, 6, -9, 1]$	$x^2 + 3x$
52	$-57633795507998288x^2 - 25908144336901568x + 14489848063860337$	$[3, 37, 9, 1]$	$x$
53	$-40397992400761905x^2 + 66197257385569486x - 17235803107236383$	$[1, -12, -1, 3]$	$-x^2 - 2x$
54	$187391234587855201x^2 + 63560181694287427x - 40397992400761905$	$[1, -3, 0, 1]$	$x$
55	$103958174095049332x^2 - 290697173879179512x + 83433060492805869$	$[1, -4, 0, 1]$	$-x^2 - 2x$
56	$-602571696164327508x^2 - 124483287697292795x + 103958174095049332$	$[1, -3, 0, 1]$	$x$
57	$-228441461792342127x^2 + 1226348877211005475x - 374130234371985381$	$[1, -4, 0, 1]$	$-x^2 - 2x$
58	$1911673262588031856x^2 + 82752689212698873x - 228441461792342127$	$[1, -3, 0, 1]$	$x$
59	$311194151005041000x^2 - 5029878796541314695x + 1600479111582990856$	$[1, -4, 0, 1]$	$-x^2 - 2x$
60	$-5963461249556437695x^2 + 978090809572908856x + 311194151005041000$	$[1, -3, 0, 1]$	$x$
61	$-18201577899674354085x^2 + 7964151225260041263x - 666896658567867856$	$[0, -1, 3, 1]$	$-x^2 - 3x$
62	$-53937837040455194399x^2 + 44094721551158081442x - 8631047883827909119$	$[1, -7, 9, 1]$	$-x^2 - 3x$
63	$-205908232672523664639x^2 - 99244626197082479679x + 53937837040455194399$	$[3, 37, -9, 1]$	$-x$
64	$-153182463237537674078x^2 + 212115145345413166082x - 52725769434985990561$	$[1, 12, -1, 3]$	$-x^2 - 2x$
65	$-671662535058026188316x^2 - 253639157040089357595x + 153182463237537674078$	$[1, 3, 0, 1]$	$-x$
66	$406821620277627031673x^2 - 947705207578735144007x + 264840914780399156643$	$[1, -4, 0, 1]$	$x^2 + 2x$
67	$-2168170068411616239026x^2 - 548802325774854906703x + 406821620277627031673$	$[1, 3, 0, 1]$	$x$
68	$955623946052481938376x^2 - 4044459987355029933623x + 1212546122359134300650$	$[1, 4, 0, 1]$	$x^2 + 2x$
69	$6911331825512475748751x^2 + 698701769745829576102x - 955623946052481938376$	$[1, -3, 0, 1]$	$-x$
70	$1654325715798311514478x^2 - 16726642275194974641195x + 5257006109714164234273$	$[1, 4, 0, 1]$	$-x^2 - 2x$
71	$21689619422589909184629x^2 - 1948354678117541205317x - 1654325715798311514478$	$[1, 3, 0, 1]$	$-x$
72	$21983648384909138875468x^2 + 65656916192408186935565x - 23637974100707450389946$	$[1, -4, 1, 1]$	$x^2 + 2x$
73	$66723183983568039068365x^2 - 22571706309547598257146x + 294028962319229690839$	$[1, 3, 0, 1]$	$-x^2$
74	$199875522988384887514256x^2 - 135320389799168522912320x + 22865735271866827947985$	$[1, -1, 3, 1]$	$-x^2 - 3x$
75	$-576760833693287834594783x^2 + 674433898201490940095171x - 158186125071035350860305$	$[1, 9, -6, 1]$	$x^2 + 3x$
76	$2404716399281354443879520x^2 + 995335542315540318329261x - 576760833693287834594783$	$[3, 37, 9, 1]$	$x$
77	$1572096376008828152924044x^2 - 3074620903510866707461211x + 832620023272526290955476$	$[1, -12, -1, 3]$	$-x^2 - 2x$
78	$-7790910031537351166233343x^2 - 2311572728745130014892612x + 1572096376008828152924044$	$[1, -3, 0, 1]$	$x$
79	$-3883669104753958167816656x^2 + 13293819156359007148174105x - 3907240926783392998416687$	$[1, -4, 0, 1]$	$-x^2 - 2x$
80	$24944826470620881651624073x^2 + 3860097282724523337216625x - 3883669104753958167816656$	$[1, -3, 0, 1]$	$x$

Number:  $\xi = .4422\dots$  Equation:  $x^3 + 3x^2 + 3x - 2 = 0$ . “All” optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$-1/2x^2 - 3/2x + 1/2$	0	0.2043	0.2554
2	$-3x^2 - x + 1$	$[1, -1, -3, 1]$	$1/6x^2 + 5/6x + 1/6$	-1	0.2610	0.3190
3	$4x^2 - 4x + 1$	$[1, 3, 1, 1]$	$1/2x^2 + x - 1$	-1	0.2134	0.4402
4	$4x^2 + 5x - 3$	$[1, -2, -1, 1]$	$-1/3 - 1/3x$	-1	0.1603	0.3207
5	$5x^2 - 9x + 3$	$[1, 2, 0, 1]$	$-x^2 - x + 1$	-1	0.1881	0.2671
6	$12x^2 + 6x - 5$	$[1, 2, 0, 1]$	$-1/2x$	-1	0.07396	0.1053
7	$-23x^2 + 26x - 7$	$[1, -3, -1, 1]$	$x^2 + 2x - 1$	-1	0.02781	0.05158
8	$95x^2 + 62x - 46$	$[2, 9, 1, 1]$	$x$	-2	0.1642	0.2726
9	$203x^2 - 135x + 20$	$[1, -13, 1, 2]$	$-x^2 - 2x + 1$	-1	0.06003	0.08716
10	$396x^2 - 503x + 145$	$[1, -2, 3, 1]$	$-1/2x^2 - 3/2x + 1/2$	-1	0.09626	0.1639
11	$348x^2 + 1092x - 551$	$[1, 11, -5, 1]$	$1/3x^2 + 2/3x + 1/3$	-1	0.3146	0.4266
12	$-48x^2 + 1595x - 696$	$[0, -1, 1, 1]$	$-x$	0	0.2968	0.3536
13	$1739x^2 - 552x - 96$	$[1, 3, 1, 1]$	$x$	-1	0.1560	0.1722
14	$-3526x^2 + 2699x - 504$	$[0, 1, -2, 1]$	$1/2x^2 + 3/2x - 1/2$	0	0.1675	0.2691
15	$5517x^2 + 1031x - 1535$	$[1, 1, 3, 1]$	$1/6x^2 + 5/6x + 1/6$	1	0.2329	0.2590
16	$-7760x^2 - 9043x + 5517$	$[1, -2, -3, 1]$	$1/2x$	1	0.1384	0.2917
17	$-8083x^2 + 20391x - 7437$	$[2, -3, -2, 1]$	$-x^2 - x + 1$	2	0.2548	0.3287
18	$22320x^2 + 8406x - 8083$	$[1, -4, -1, 2]$	$1/2x$	1	0.06750	0.08592
19	$61129x^2 - 53404x + 11662$	$[1, -3, 2, 1]$	$-x^2 - 2x + 2$	1	0.4657	0.8382
20	$38809x^2 - 61810x + 19745$	$[0, -1, 1, 1]$	$-1/6x^2 - 1/2x + 1/6$	0	0.04145	0.06203
21	$-178237x^2 - 96682x + 77618$	$[2, -10, 1, 1]$	$x$	2	0.1524	0.2262
22	$352537x^2 - 349221x + 85492$	$[1, 12, -1, 2]$	$x^2 + 2x - 1$	1	0.04776	0.09744
23	$-662328x^2 + 1179217x - 391967$	$[1, -2, -3, 1]$	$1/2x^2 + 3/2x - 1/2$	1	0.1396	0.1990
24	$-744504x^2 - 2151336x + 1097041$	$[1, -11, -5, 1]$	$1/3x^2 + 2/3x + 1/3$	1	0.3221	0.4444
25	$3084025x^2 - 1735536x + 164352$	$[1, -3, -1, 1]$	$x^2$	1	0.1295	0.1708
26	$-6085874x^2 + 6801625x - 1817712$	$[1, -1, -2, 1]$	$1/2x^2 + 3/2x - 1/2$	1	0.1644	0.3078
27	$-10078755x^2 - 275281x + 2092993$	$[1, -5, -1, 1]$	$-1/6x^2 - 5/6x - 1/6$	1	0.2050	0.2140
28	$-14980492x^2 - 16164629x + 10078755$	$[1, -2, 3, 1]$	$-1/2x$	1	0.1166	0.2621
29	$-41223876x^2 - 9913566x + 12447029$	$[1, 2, 1, 1]$	$-x^2 - 2x + 1$	1	0.06074	0.06979
30	$104808347x^2 - 131657492x + 37726562$	$[3, 13, -8, 1]$	$x^2 + 2x - 2$	3	0.5699	0.9779
31	$-113758062x^2 - 136118657x + 82447752$	$[1, 13, 2, 3]$	$1/3x + 1/3$	1	0.2929	0.6049
32	$63584471x^2 - 141571058x + 50173591$	$[1, 1, 0, 1]$	$1/2x^2 + 1/2x - 1/2$	1	0.05737	0.07615
33	$332324471x^2 + 140579822x - 127168942$	$[1, -2, 0, 1]$	$-x$	1	0.1398	0.1853
34	$728233413x^2 + 139588586x - 204164293$	$[0, 1, 2, 1]$	$-1/2x^2 - 3/2x + 1/2$	0	0.1753	0.1955
35	$600073235x^2 - 844965183x + 256320356$	$[1, 6, 1, 1]$	$-1/3x^2 - 2/3x + 2/3$	-1	0.07238	0.1155
36	$2645184888x^2 + 1543899349x - 1200146470$	$[1, 4, -1, 1]$	$-x$	-1	0.3137	0.4851
37	$-1071986292x^2 + 2674484135x - 973125361$	$[1, -3, 0, 1]$	$1/4x^2 + 1/4x - 3/4$	-1	0.1894	0.2449
38	$1573198596x^2 + 4218383484x - 2173271831$	$[0, 1, 1, 1]$	$-1/3x^2 - 2/3x - 1/3$	0	0.3267	0.4588
39	$5389230707x^2 - 4650034104x + 1002424608$	$[1, 1, -2, 1]$	$-x^2$	1	0.1043	0.1855
40	$12852872314x^2 + 1811182895x - 3314819807$	$[1, 2, 2, 1]$	$-1/4x^2 - 5/4x - 1/4$	1	0.5052	0.5488

41	$-7964853911x^2 - 13354084618x + 7463641607$	[1, 3, -2, 1]	$1/3x + 1/3$	1	0.2622
42	$10277249110x^2 - 16192935827x + 5151246408$	[1, 1, 1, 1]	$x^2 + x$	1	0.2459
43	$18242103021x^2 - 2838851209x - 2312395199$	[0, -1, 1, 1]	$-1/6x^2 - 5/6x - 1/6$	0	0.1772
44	$28519352131x^2 - 19031787036x + 2838851209$	[0, -1, 2, 1]	$-1/2x^2 - 3/2x$	0	0.3296
45	$28782580136x^2 + 28519352131x - 18242103021$	[1, -2, 0, 1]	$1/11x^2 + 3/11$	-1	0.09753
46	$75544035288x^2 + 6648713886x - 17715647011$	[1, 1, 1, 1]	$-x^2 - 2x + 1$	-1	0.05381
47	$-219983391978x^2 - 244347752875x + 151088070576$	[2, -7, -1, 1]	$x$	-2	0.2490
48	$99908396185x^2 - 315694026874x + 120074995793$	[1, 11, 3, 2]	$1/2x^2 + 1/2x - 1/2$	-1	0.07525
49	$615419215429x^2 + 179650192762x - 199816792370$	[1, -2, 1, 1]	$-x$	-1	0.1265
50	$-1330746827043x^2 - 43606358650x + 279558588947$	[0, -1, -2, 1]	$1/2x^2 + 3/2x - 1/2$	0	0.1544
51	$994886200561x^2 - 1958861721357x + 671721252964$	[1, 6, 1, 1]	$1/3x^2 + 2/3x - 2/3$	-1	0.1026
52	$4943520323040x^2 + 2312937348719x - 1989772401122$	[1, -4, -1, 1]	$-x$	-1	0.2890
53	$1653911774640x^2 - 5920191522721x + 2294722347839$	[1, 3, 0, 1]	$-1/4x^2 - 1/4x + 3/4$	-1	0.2448
54	$3289608548400x^2 + 8233128871440x - 4284494748961$	[0, 1, -1, 1]	$1/3x^2 + 2/3x + 1/3$	0	0.3283
55	$10881926846641x^2 + 2667012976081x - 3307823549280$	[1, 2, 0, 1]	$-x^2 - x$	1	0.3658
56	$9246230072881x^2 - 11486307418080x + 3271393547520$	[1, -1, 1, 1]	$-1/3x^2 - 2/3x + 2/3$	1	0.1250
57	$23417765467922x^2 - 586165570559x - 4320924750721$	[1, 1, 1, 1]	$-1/4x^2 - 5/4x - 1/4$	1	0.4424
58	$15807232168801x^2 + 25053462241682x - 14171535395041$	[1, -2, 1, 1]	$-1/3 - 1/3x$	1	0.2434
59	$32663995540803x^2 - 12072472988639x - 1049531203201$	[1, 1, 0, 1]	$-x^2 - x + 1$	1	0.1499
60	$49520758912805x^2 - 49198408218960x + 12072472988639$	[0, -1, 2, 1]	$-1/2x^2 - 3/2x$	0	0.2622
61	$55032229805524x^2 + 49520758912805x - 32663995540803$	[1, 2, 0, 1]	$1/11x^2 + 3/11$	1	0.09406
62	$137216984259132x^2 - 11750122294794x - 21641053755365$	[1, 1, 1, 1]	$-x^2 - 2x + 1$	1	0.04683
63	$-423401075072190x^2 - 433292006532761x + 274433968518264$	[2, -7, -1, 1]	$x$	2	0.2065
64	$147107915719703x^2 - 689803302964106x + 276293159352487$	[1, 11, 3, 2]	$1/2x^2 + 1/2x - 1/2$	1	0.09478
65	$1131127050123215x^2 + 165030587806622x - 294215831439406$	[1, -2, 1, 1]	$-x$	1	0.1127
66	$2409362015966133x^2 - 359742127350862x - 312138503526325$	[0, 1, 2, 1]	$-1/2x^2 - 3/2x + 1/2$	0	0.1335
67	$-818988546596890x^2 - 4047339109159913x + 1950115596720105$	[1, 5, -1, 1]	$-1/3x^2 - 2/3x - 1/3$	-1	0.2613
68	$1590373469369243x^2 - 4407081236510775x + 1637977093193780$	[0, 1, 1, 1]	$-x$	0	0.1370
69	$9178201644618504x^2 + 3133143314913949x - 3180746938738486$	[1, 3, -1, 1]	$-x$	1	0.2628
70	$2361758392141596x^2 - 12861501582181463x + 5226069783107665$	[1, 2, 0, 1]	$-1/4x^2 - 1/4x + 3/4$	1	0.3048
71	$-6816443252476908x^2 - 15994644897095412x + 8406816721846151$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x - 1/3$	0	0.3268
72	$19946776758606251x^2 + 1859205393317123x - 4723516784283192$	[1, 2, 0, 1]	$x^2 + x$	1	0.3242
73	$-26763220011083159x^2 - 17853850290412535x + 13130333506129343$	[0, 1, -1, 1]	$1/6x^2 + 5/6x + 1/6$	0	0.3314
74	$15492091898270939x^2 - 26996941085959752x + 8909369720670624$	[1, 1, 1, 1]	$1/2x^2 + x$	-1	0.1821
75	$42255311909354098x^2 - 9143090795547217x - 4220963785458719$	[0, -1, 1, 1]	$-1/4x^2 - 5/4x - 1/4$	0	0.3800
76	$31217904871418471x^2 + 46709996769689410x - 26763220011083159$	[1, -1, -1, 1]	$-1/3 - 1/3x$	-1	0.2232
77	$57747403807625037x^2 - 36140031881506969x + 4688405935211905$	[1, 1, 0, 1]	$-x^2 - x + 1$	-1	0.1236
78	$104691121652191040x^2 + 84276902743831603x - 57747403807625037$	[1, 2, 0, 1]	$-1/2x$	-1	0.08980
79	$-246715428203647680x^2 + 70853189670378714x + 16918965990906163$	[1, -3, -1, 1]	$x^2 + 2x - 1$	-1	0.03994
80	$810999474281321754x^2 + 757065250601849203x - 493430856407295360$	[2, 9, 1, 1]	$x$	-2	0.1908

Number:  $\xi = .2599\dots$  Equation:  $x^3 + 3x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-3x^2 - 3x + 1$	$[1, -3, -3, 1]$	$x$	-1	0.1580	0.3336
2	$-4x^2 + x$	$[1, -4, 0, 1]$	$-x^2 - 2x$	-1	0.1650	0.1754
3	$-7x^2 - 2x + 1$	$[0, 1, 1, 1]$	$-1/3x^2 - 4/3x - 1/3$	0	0.3550	0.3912
4	$-5x^2 + 9x - 2$	$[1, -2, 3, 1]$	$-1/2x^2 - x + 1/2$	1	0.1211	0.1644
5	$-21x^2 + 17x - 3$	$[1, 1, 2, 1]$	$-1/2x^2 - 2x + 1/2$	1	0.03535	0.05923
6	$-80x^2 - 60x + 21$	$[4, -19, 7, 1]$	$-x$	4	0.1333	0.2175
7	$-81x^2 + 98x - 20$	$[1, 19, -1, 4]$	$-x^2 - 2x$	1	0.1175	0.2027
8	$-161x^2 + 38x + 1$	$[0, 1, 1, 1]$	$-1/3x^2 - 4/3x - 1/3$	0	0.2228	0.2352
9	$-242x^2 + 136x - 19$	$[0, 1, 2, 1]$	$-1/2x^2 - 3/2x$	0	0.2133	0.2819
10	$-341x^2 - 223x + 81$	$[1, 4, 0, 1]$	$-1/5x^2 - x - 3/5$	1	0.3698	0.5489
11	$-62x^2 + 397x - 99$	$[1, 1, -1, 1]$	$-1/3x^2 - 1/3x + 2/3$	1	0.2795	0.3037
12	$-583x^2 - 87x + 62$	$[1, 1, 0, 1]$	$-x$	1	0.1567	0.1619
13	$366x^2 - 930x + 217$	$[1, -2, -1, 1]$	$1/2x^2 + x - 1/2$	1	0.08224	0.09945
14	$-2028x^2 - 881x + 366$	$[1, 4, 1, 1]$	$x$	1	0.1016	0.1241
15	$3275x^2 - 3856x + 781$	$[1, 5, -1, 1]$	$x^2 + 2x - 1$	1	0.1516	0.2672
16	$5203x^2 + 6450x - 2028$	$[1, -4, -1, 1]$	$-1/2 - 1/2x$	1	0.2672	0.4676
17	$8478x^2 + 2594x - 1247$	$[0, 1, 1, 1]$	$-x^2 - 2x$	0	0.2712	0.3025
18	$13000x^2 - 5999x + 681$	$[1, 3, 1, 1]$	$-2/3x^2 - 5/3x + 1/3$	-1	0.09240	0.1123
19	$9840x^2 + 32680x - 9159$	$[2, 3, -2, 1]$	$1/2x^2 + x + 1/2$	-2	0.4635	0.5419
20	$-3160x^2 + 38679x - 9840$	$[0, -1, 1, 1]$	$-x$	0	0.1688	0.1808
21	$48159x^2 - 360x - 3160$	$[1, 6, 1, 2]$	$x$	-1	0.06800	0.06830
22	$144837x^2 + 147637x - 48159$	$[1, 3, 3, 1]$	$-x$	-1	0.1661	0.3436
23	$-195796x^2 + 40119x + 2800$	$[1, -4, 0, 1]$	$x^2 + 2x$	-1	0.1716	0.1788
24	$-340633x^2 - 107518x + 50959$	$[0, -1, 1, 1]$	$-1/3x^2 - 4/3x - 1/3$	0	0.3648	0.4093
25	$-249555x^2 + 415271x - 91078$	$[1, 2, 3, 1]$	$-1/2x^2 - x + 1/2$	-1	0.1119	0.1576
26	$-377952x^2 - 1005459x + 286874$	$[1, 2, -2, 1]$	$1/2x^2 + x + 1/2$	-1	0.5205	0.6364
27	$1035539x^2 - 763143x + 128397$	$[1, -4, -1, 1]$	$x^2$	-1	0.03730	0.05813
28	$-2978220x^2 + 3710159x - 763143$	$[1, -1, -3, 1]$	$x^2 + 3x$	-1	0.4057	0.6843
29	$-3869760x^2 - 2978220x + 1035539$	$[1, -12, -3, 1]$	$1/10x^2 + 3/10$	-1	0.1354	0.2253
30	$4013759x^2 - 4473302x + 891540$	$[1, -1, 0, 1]$	$x^2 + 2x$	-1	0.1063	0.1960
31	$7883519x^2 - 1495082x - 143999$	$[0, -1, 1, 1]$	$-1/3x^2 - 4/3x - 1/3$	0	0.2318	0.2402
32	$11897278x^2 - 5968384x + 747541$	$[0, -1, 2, 1]$	$-1/2x^2 - 3/2x$	0	0.2237	0.2809
33	$16514579x^2 + 11149737x - 4013759$	$[1, -4, 1, 1]$	$-1/5x^2 - x - 3/5$	1	0.3764	0.5703
34	$3266218x^2 - 18613203x + 4617301$	$[1, 1, -1, 1]$	$-1/3x^2 - 1/3x + 2/3$	1	0.2666	0.2912
35	$28411857x^2 + 5181353x - 3266218$	$[1, 1, 0, 1]$	$-x$	1	0.1615	0.1690
36	$-18429714x^2 + 43194790x - 9982143$	$[1, -2, -1, 1]$	$1/2x^2 + x - 1/2$	1	0.07699	0.09511
37	$98483932x^2 + 45306999x - 18429714$	$[1, 4, 1, 1]$	$x$	1	0.1040	0.1297
38	$-162220645x^2 + 175848304x - 34747219$	$[1, 5, -1, 1]$	$x^2 + 2x - 1$	1	0.1368	0.2586
39	$-250144797x^2 - 313881510x + 98483932$	$[1, -4, -1, 1]$	$-1/2 - 1/2x$	1	0.2746	0.4761
40	$-225957358x^2 + 397003607x - 87924152$	$[1, 2, 0, 1]$	$-x^2 - x + 1$	1	0.2955	0.4057

41	$-412365442x^2 - 138033206x + 63736713$	[1, 1, 0, 1]	$-1/5x^2 - x - 3/5$	1	0.2784	0.
42	$-638322800x^2 + 258970401x - 24187439$	[0, 1, 1, 1]	$-2/3x^2 - 5/3x + 1/3$	0	0.09668	0.
43	$-460740320x^2 - 1559803440x + 436552881$	[2, -2, 1, 1]	$1/2x^2 + x + 1/2$	-2	0.4582	0.
44	$177582480x^2 - 1818773841x + 460740320$	[0, -1, 1, 1]	$-x$	0	0.1619	0.
45	$-2351521281x^2 - 72007120x + 177582480$	[1, 6, 1, 2]	$x$	-1	0.07036	0.
46	$-6982556723x^2 - 7232146323x + 2351521281$	[1, 3, 3, 1]	$-x$	-1	0.1730	0.
47	$9583667604x^2 - 1530745361x - 249589600$	[1, -4, 0, 1]	$x^2 + 2x$	-1	0.1784	0.
48	$16566224327x^2 + 5701400962x - 2601110881$	[0, -1, 1, 1]	$-1/3x^2 - 4/3x - 1/3$	0	0.3745	0.
49	$12434368085x^2 - 19128535849x + 4131856242$	[1, 2, 3, 1]	$-1/2x^2 - x + 1/2$	-1	0.1030	0.
50	$17847380088x^2 + 48129128261x - 13715523846$	[1, 2, -2, 1]	$1/2x^2 + x + 1/2$	-1	0.5175	0.
51	$-51018628101x^2 + 34086416097x - 5413012003$	[1, -4, -1, 1]	$x^2$	-1	0.03929	0.
52	$147642872300x^2 - 169516912401x + 34086416097$	[1, -1, -3, 1]	$x^2 + 3x$	-1	0.3675	0.
53	$187142300400x^2 + 147642872300x - 51018628101$	[1, -12, -3, 1]	$1/10x^2 + 3/10$	-1	0.1374	0.
54	$-198661500401x^2 + 203603328498x - 39499428100$	[1, -1, 0, 1]	$x^2 + 2x$	-1	0.09554	0.
55	$-385803800801x^2 + 55960456198x + 11519200001$	[0, -1, 1, 1]	$-1/3x^2 - 4/3x - 1/3$	0	0.2409	0.
56	$-584465301202x^2 + 259563784696x - 27980228099$	[0, -1, 2, 1]	$-1/2x^2 - 3/2x$	0	0.2343	0.
57	$-799587829701x^2 - 556485073103x + 198661500401$	[1, -4, 1, 1]	$-1/5x^2 - x - 3/5$	1	0.3830	0.
58	$-170681272302x^2 + 872009313997x - 215122528499$	[1, 1, -1, 1]	$-1/3x^2 - 1/3x + 2/3$	1	0.2539	0.
59	$-1384053130903x^2 - 296921288407x + 170681272302$	[1, 1, 0, 1]	$-x$	1	0.1663	0.
60	$925827845806x^2 - 2003582412690x + 458225285097$	[1, -2, -1, 1]	$1/2x^2 + x - 1/2$	1	0.07189	0.
61	$-4781065950108x^2 - 2319258252321x + 925827845806$	[1, 4, 1, 1]	$x$	1	0.1064	0.
62	$8026152048235x^2 - 7995575099536x + 1535979851981$	[1, 5, -1, 1]	$x^2 + 2x - 1$	1	0.1237	0.
63	$12023939598003x^2 + 15269025696130x - 4781065950108$	[1, -4, -1, 1]	$-1/2 - 1/2x$	1	0.2821	0.
64	$11271238146362x^2 - 18310408451393x + 3997787549768$	[1, 2, 0, 1]	$-x^2 - x + 1$	1	0.2728	0.
65	$20050091646238x^2 + 7273450596594x - 3245086098127$	[1, 1, 0, 1]	$-1/5x^2 - x - 3/5$	1	0.2857	0.
66	$31321329792600x^2 - 11036957854799x + 752701451641$	[0, 1, 1, 1]	$-2/3x^2 - 5/3x + 1/3$	0	0.1010	0.
67	$21555494549520x^2 + 74432318891640x - 20802793097879$	[2, -2, 1, 1]	$1/2x^2 + x + 1/2$	-2	0.4528	0.
68	$-9765835243080x^2 + 85469276746439x - 21555494549520$	[0, -1, 1, 1]	$-x$	0	0.1552	0.
69	$114766782475679x^2 + 7742011179720x - 9765835243080$	[1, 6, 1, 2]	$x$	-1	0.07273	0.
70	$336558336247317x^2 + 354066182670117x - 114766782475679$	[1, 3, 3, 1]	$-x$	-1	0.1799	0.
71	$-468832965145796x^2 + 54501232027559x + 17507846422800$	[1, -4, 0, 1]	$x^2 + 2x$	-1	0.1853	0.
72	$-805391301393113x^2 - 299564950642558x + 132274628898479$	[0, -1, 1, 1]	$-1/3x^2 - 4/3x - 1/3$	0	0.3841	0.
73	$-618615440467075x^2 + 879378072602631x - 186775860926038$	[1, 2, 3, 1]	$-1/2x^2 - x + 1/2$	-1	0.09447	0.
74	$-842384686997872x^2 - 2303384814462819x + 655608826071834$	[1, 2, -2, 1]	$1/2x^2 + x + 1/2$	-1	0.5144	0.
75	$2511455147473059x^2 - 1513692426590263x + 223769246530797$	[1, -4, -1, 1]	$x^2$	-1	0.04132	0.
76	$-7310596195888380x^2 + 7723840166836239x - 1513692426590263$	[1, -1, -3, 1]	$x^2 + 3x$	-1	0.3311	0.
77	$-9048057869009440x^2 - 7310596195888380x + 2511455147473059$	[1, -12, -3, 1]	$1/10x^2 + 3/10$	-1	0.1394	0.
78	$9822051343361439x^2 - 9237532593426502x + 1737461673121060$	[1, -1, 0, 1]	$x^2 + 2x$	-1	0.09649	0.
79	$18870109212370879x^2 - 1926936397538122x - 773993474351999$	[0, -1, 1, 1]	$-1/3x^2 - 4/3x - 1/3$	0	0.2501	0.
80	$28692160555732318x^2 - 11164468990964624x + 963468198769061$	[0, -1, 2, 1]	$-1/2x^2 - 3/2x$	0	0.2450	0.

Number:  $\xi = .2725\dots$  Equation:  $2x^3 - 3x^2 - 3x + 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 3x + 1$	$[1, -3, -2, 1]$	$-2x + 1$	-1	0.3041	0.4731
2	$-x^2 + 4x - 1$	$[1, -3, -1, 1]$	$-x^2 + 2x$	-1	0.2546	0.2864
3	$5x^2 - 5x + 1$	$[1, -1, -2, 1]$	$2x$	-1	0.2168	0.4423
4	$-5x^2 - 6x + 2$	$[1, -2, -1, 1]$	$-1/2 - x$	-1	0.2412	0.4355
5	$-11x^2 + 3x$	$[1, -1, 1, 1]$	$-2/3x^2 + 7/3x - 2/3$	-1	0.06505	0.06989
6	$-27x^2 - 33x + 11$	$[3, 4, 2, 1]$	$2x$	-3	0.3191	0.5682
7	$-16x^2 - 36x + 11$	$[0, -1, 1, 1]$	$x^2 - 3/2x - 1/2$	0	0.3169	0.4091
8	$-44x^2 + 23x - 3$	$[1, 14, -1, 3]$	$x - 1$	-1	0.3444	0.4401
9	$17x^2 - 56x + 14$	$[1, 0, -1, 1]$	$-2/3x^2 + 4/3x + 1/3$	-1	0.3611	0.4169
10	$-60x^2 - 13x + 8$	$[1, 1, 0, 1]$	$2x^2 + x - 1$	-1	0.2400	0.2555
11	$-43x^2 - 69x + 22$	$[0, 1, 1, 1]$	$x - 1$	0	0.2308	0.3440
12	$-103x^2 - 82x + 30$	$[0, 1, 2, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.1927	0.3312
13	$-121x^2 + 66x - 9$	$[1, -1, 1, 1]$	$-2x^2 + 5x - 1$	-1	0.05696	0.07423
14	$-231x^2 - 381x + 121$	$[1, 3, -1, 1]$	$2x$	-1	0.3079	0.4521
15	$-110x^2 - 447x + 130$	$[0, -1, 1, 1]$	$x^2 - 3/2x - 1/2$	0	0.3536	0.4050
16	$502x^2 - 412x + 75$	$[1, -5, 0, 1]$	$1 - x$	-1	0.3245	0.5503
17	$612x^2 + 35x - 55$	$[0, -1, 1, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.1807	0.1827
18	$-341x^2 - 828x + 251$	$[1, 1, 0, 1]$	$1 - x$	-1	0.2406	0.3035
19	$-953x^2 - 863x + 306$	$[0, -1, 1, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.1194	0.2296
20	$1385x^2 - 1170x + 216$	$[1, 2, 1, 1]$	$2x^2 - 5x + 1$	-1	0.05401	0.09387
21	$-1815x^2 - 4587x + 1385$	$[1, 3, 1, 1]$	$-2x$	-1	0.3230	0.4030
22	$-430x^2 - 5757x + 1601$	$[0, 1, 1, 1]$	$x^2 - 3/2x - 1/2$	0	0.4245	0.4597
23	$6402x^2 - 956x - 215$	$[1, 4, -1, 1]$	$-x$	1	0.1431	0.1464
24	$-8647x^2 - 9388x + 3201$	$[1, 1, -1, 1]$	$-x$	1	0.08386	0.1648
25	$16531x^2 - 18969x + 3942$	$[1, 4, 1, 1]$	$2x^2 - 5x + 1$	1	0.07333	0.1322
26	$-11655x^2 - 57477x + 16531$	$[1, 4, 1, 1]$	$-2x$	1	0.3670	0.4124
27	$69132x^2 - 27787x + 2438$	$[1, 4, -1, 1]$	$1/2 - x$	1	0.1208	0.1404
28	$-75911x^2 - 106136x + 34566$	$[1, 2, -1, 1]$	$-x$	1	0.07757	0.1255
29	$-205493x^2 + 293730x - 64791$	$[1, -5, -2, 1]$	$-2x^2 + 5x - 1$	1	0.1272	0.1957
30	$-598606x^2 - 504796x + 182047$	$[2, 7, 1, 1]$	$2x^2 + x - 1$	2	0.3059	0.5518
31	$-29019x^2 - 746061x + 205493$	$[1, -3, 1, 2]$	$2x^2 - 4x$	1	0.4475	0.4821
32	$-775080x^2 + 534995x - 88237$	$[1, 1, -1, 1]$	$x - 1/2$	1	0.1099	0.1636
33	$-627625x^2 - 1250857x + 387540$	$[1, 1, 0, 1]$	$x$	1	0.07798	0.1051
34	$-3756964x^2 + 143062x + 240085$	$[1, 4, 1, 1]$	$2x - 1$	1	0.3200	0.3218
35	$-2649169x^2 + 4430628x - 1010772$	$[1, -3, 1, 1]$	$x^2 - 2x$	1	0.2095	0.2954
36	$-5492384x^2 - 5395361x + 1878482$	$[1, 2, -1, 1]$	$2x^2 + x - 1$	1	0.1864	0.3881
37	$-8141553x^2 - 964733x + 867710$	$[0, 1, 1, 1]$	$x - 1$	0	0.2980	0.3055
38	$-9055302x^2 + 9004318x - 1781459$	$[1, 2, 0, 1]$	$4/3x^2 - 8/3x + 1/3$	-1	0.1085	0.2200
39	$-4578635x^2 - 15364412x + 4527651$	$[1, 1, -1, 1]$	$x$	-1	0.08515	0.1001
40	$-39886094x^2 + 10683809x + 50984$	$[1, 3, 1, 1]$	$2x - 1$	-1	0.2610	0.2798



41	$49145332x^2 + 59778157x - 19943047$	$[1, -4, -1, 1]$	$-x$	-1	0.1598	0.2856
42	$-84350823x^2 + 6003206x + 4629619$	$[1, 2, 0, 1]$	$1 - x$	-1	0.2315	0.2333
43	$-133496155x^2 - 53774951x + 24572666$	$[0, -1, 1, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.2172	0.2598
44	$-110297076x^2 + 142246535x - 30575872$	$[1, 2, 2, 1]$	$2x^2 - 5x + 2$	-1	0.1938	0.3193
45	$23199079x^2 + 196021486x - 55148538$	$[0, -1, 1, 1]$	$-x$	0	0.1003	0.1096
46	$-438441130x^2 + 236721325x - 31949459$	$[1, 1, 2, 1]$	$-2x + 1$	-1	0.2283	0.2960
47	$420940370x^2 + 689611154x - 219220565$	$[1, 4, -1, 1]$	$-x$	-1	0.1539	0.2268
48	$900081339x^2 - 277421164x + 8750380$	$[1, -2, 0, 1]$	$x - 1$	-1	0.1907	0.2089
49	$1321021709x^2 + 412189990x - 210470185$	$[0, 1, 1, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.1539	0.1728
50	$-1396723068x^2 + 2170785961x - 487891349$	$[1, 2, -2, 1]$	$-2x^2 + 5x - 2$	1	0.3266	0.4784
51	$-75701359x^2 + 2582975951x - 698361534$	$[0, 1, 1, 1]$	$-x$	0	0.1260	0.1354
52	$4938847825x^2 - 1623827145x + 75701359$	$[1, 2, -1, 1]$	$2x$	-1	0.2512	0.2784
53	$5014549184x^2 - 4206803096x + 774062893$	$[0, -1, 1, 1]$	$x^2 - 3/2x - 1/2$	0	0.2161	0.3734
54	$8253868505x^2 + 6672059524x - 2431573233$	$[1, 3, 2, 1]$	$x^2 - 1$	-1	0.5420	0.9432
55	$-3315020680x^2 - 8295886669x + 2507274592$	$[1, 0, -1, 1]$	$-4/3x^2 + 8/3x - 1/3$	-1	0.1612	0.2017
56	$9953397009x^2 - 5830630241x + 849764252$	$[1, 1, 1, 1]$	$1 - x$	-1	0.1688	0.2280
57	$-13268417689x^2 - 2465256428x + 1657510340$	$[0, 1, -1, 1]$	$-2/3x^2 + 1/3x + 1/3$	0	0.1124	0.1180
58	$-18291301842x^2 + 32459836916x - 7488140581$	$[1, -1, -3, 1]$	$2x^2 - 5x + 2$	1	0.5286	0.7246
59	$31467348234x^2 + 34024975959x - 11610907349$	$[1, -3, 1, 1]$	$-2x^2 - x + 1$	1	0.3362	0.6629
60	$5022884153x^2 - 34925093344x + 9145650921$	$[1, -1, 0, 1]$	$-x^2 + 2x$	1	0.1668	0.1817
61	$-54781534229x^2 + 33359954301x - 5022884153$	$[1, -1, -1, 1]$	$2x$	1	0.2237	0.3085
62	$-59804418382x^2 + 68285047645x - 14168535074$	$[0, -1, 1, 1]$	$x^2 - 3/2x - 1/2$	0	0.2900	0.5250
63	$76203114157x^2 + 70515208346x - 24879325038$	$[1, -2, -1, 1]$	$-x^2 + 1$	1	0.3344	0.6563
64	$21421579928x^2 + 103875162647x - 29902209191$	$[1, 0, 1, 1]$	$4/3x^2 - 8/3x + 1/3$	1	0.1829	0.2059
65	$-114585952611x^2 + 101645001946x - 19191419227$	$[1, -1, 1, 1]$	$1 - x$	1	0.1619	0.2939
66	$-136007532539x^2 - 2230160701x + 10710789964$	$[0, -1, 1, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.08547	0.08602
67	$276475386480x^2 + 384370856988x - 125296742575$	$[1, 4, -1, 1]$	$-2x + 1$	1	0.3105	0.5042
68	$-110125631209x^2 + 481555537532x - 123066581874$	$[1, 2, 1, 1]$	$x^2 - 2x$	1	0.2295	0.2565
69	$-632734181437x^2 + 576510057375x - 110125631209$	$[1, -1, 2, 1]$	$-2x$	1	0.2159	0.4018
70	$688958305499x^2 + 770971874677x - 261304275114$	$[1, 2, -1, 1]$	$-1/2 - x$	1	0.2477	0.4739
71	$56224124062x^2 + 1347481932052x - 371429906323$	$[0, 1, 1, 1]$	$4/3x^2 - 8/3x + 1/3$	0	0.2228	0.2401
72	$-1431818118145x^2 + 287093720230x + 28112062031$	$[1, 1, -1, 1]$	$-x$	-1	0.06855	0.07133
73	$3721266913975x^2 + 4239230230373x - 1431818118145$	$[1, 3, -2, 1]$	$-2x$	-1	0.3276	0.6173
74	$2289448795830x^2 + 4526323950603x - 1403706056114$	$[0, 1, 1, 1]$	$x^2 - 3/2x - 1/2$	0	0.3116	0.4213
75	$-5671048348518x^2 + 2495856812972x - 258981658199$	$[1, 4, 0, 1]$	$1 - x$	1	0.3559	0.4255
76	$-1949781434543x^2 + 6735087043345x - 1690799776344$	$[1, 0, 1, 1]$	$2/3x^2 - 4/3x - 1/3$	1	0.3249	0.3726
77	$7960497144348x^2 + 2030467137631x - 1144724397915$	$[1, -1, 0, 1]$	$2x^2 + x - 1$	1	0.2627	0.2852
78	$6010715709805x^2 + 8765554180976x - 2835524174259$	$[0, 1, 1, 1]$	$x - 1$	0	0.2317	0.3649
79	$13971212854153x^2 + 10796021318607x - 3980248572174$	$[0, 1, 2, 1]$	$2/3x^2 - 1/3x - 1/3$	0	0.2206	0.3702
80	$-15581326927409x^2 + 7200476718686x - 805057036628$	$[1, 1, -1, 1]$	$2x^2 - 5x + 1$	1	0.05875	0.07146

Number:  $\xi = .3554\dots$  Equation:  $2x^3 - 3x^2 - 2x + 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$-2x + 1$	-1	0.1461	0.3288
2	$-3x^2 + x$	$[1, -3, 0, 1]$	$x - 1$	-1	0.2119	0.2355
3	$-5x^2 - x + 1$	$[0, 1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.3246	0.3505
4	$-x^2 + 6x - 2$	$[1, -2, 2, 1]$	$2x^2 - 5x + 2$	1	0.2223	0.2531
5	$-9x^2 + 6x - 1$	$[1, 1, 1, 1]$	$-2x$	1	0.3555	0.5179
6	$-10x^2 + 12x - 3$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.2571	0.4517
7	$-3x^2 - 13x + 5$	$[1, -2, 0, 1]$	$x$	-1	0.1072	0.1288
8	$-32x^2 + 17x - 2$	$[1, 2, 1, 1]$	$2x - 1$	-1	0.1879	0.2417
9	$31x^2 + 34x - 16$	$[1, -3, -1, 1]$	$-x$	-1	0.07539	0.1548
10	$30x^2 + 85x - 34$	$[0, 1, 2, 1]$	$2x^2 - 3x$	0	0.3834	0.4924
11	$-100x^2 + 89x - 19$	$[1, 4, 1, 1]$	$1 - x$	1	0.3420	0.6253
12	$61x^2 + 119x - 50$	$[1, 1, 0, 1]$	$-x$	1	0.1721	0.2478
13	$191x^2 + 115x - 65$	$[1, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	1	0.2445	0.3615
14	$-169x^2 + 212x - 54$	$[1, 2, -1, 1]$	$2x^2 - 5x + 2$	1	0.1433	0.2436
15	$443x^2 + 349x - 180$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	1	0.2452	0.4378
16	$529x^2 - 309x + 43$	$[1, -2, 0, 1]$	$-x^2 + 5/2x - 1/2$	1	0.09167	0.1236
17	$-969x^2 - 1144x + 529$	$[1, -3, 1, 1]$	$-2x$	1	0.3048	0.5886
18	$-440x^2 - 1453x + 572$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.2000	0.2493
19	$-1673x^2 + 1585x - 352$	$[1, -4, 0, 1]$	$x - 1$	-1	0.1709	0.3319
20	$-2113x^2 + 132x + 220$	$[0, 1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.1503	0.1525
21	$-3786x^2 + 1717x - 132$	$[0, 1, 2, 1]$	$2x^2 - 3x$	0	0.3926	0.4739
22	$-3962x^2 - 3918x + 1893$	$[1, 3, 1, 1]$	$x$	-1	0.1528	0.3372
23	$-5899x^2 + 1849x + 88$	$[1, 1, 0, 1]$	$x - 1$	-1	0.2184	0.2399
24	$-9861x^2 - 2069x + 1981$	$[0, 1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.3365	0.3649
25	$-1761x^2 + 11402x - 3830$	$[1, -2, 1, 1]$	$2x^2 - 5x + 2$	1	0.2139	0.2432
26	$-17521x^2 + 11182x - 1761$	$[1, 1, 1, 1]$	$-2x$	1	0.3591	0.5090
27	$-19282x^2 + 22584x - 5591$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.2427	0.4345
28	$-6339x^2 - 24873x + 9641$	$[1, -2, 0, 1]$	$x$	-1	0.1046	0.1271
29	$-62424x^2 + 31477x - 3302$	$[1, 2, 1, 1]$	$2x - 1$	-1	0.1906	0.2396
30	$62159x^2 + 65726x - 31212$	$[1, -3, -1, 1]$	$-x$	-1	0.07509	0.1592
31	$61894x^2 + 162929x - 65726$	$[0, 1, 2, 1]$	$2x^2 - 3x$	0	0.3754	0.4907
32	$-193876x^2 + 166761x - 34779$	$[1, 4, 1, 1]$	$1 - x$	1	0.3426	0.6072
33	$124053x^2 + 228655x - 96938$	$[1, 1, 0, 1]$	$-x$	1	0.1694	0.2497
34	$379823x^2 + 224823x - 127885$	$[1, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	1	0.2577	0.3772
35	$-325593x^2 + 399248x - 100770$	$[1, 2, -1, 1]$	$2x^2 - 5x + 2$	1	0.1354	0.2341
36	$178283x^2 + 852726x - 325593$	$[1, 1, 1, 1]$	$-2x$	1	0.4391	0.5223
37	$883699x^2 + 678301x - 352708$	$[1, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	1	0.2600	0.4546
38	$-1031009x^2 + 573673x - 73655$	$[1, 1, -1, 1]$	$x^2 - 5/2x + 1/2$	1	0.09281	0.1220
39	$1945681x^2 + 2209328x - 1031009$	$[1, 2, 0, 1]$	$-2x$	1	0.3029	0.6039
40	$914672x^2 + 2783001x - 1104664$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.1955	0.2475

41	$-3240337x^2 + 2972993x - 647328$	$[1, 4, 0, 1]$	$1 - x$	-1	0.1709	0.3215
42	$-4155009x^2 + 189992x + 457336$	$[0, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.1549	0.1571
43	$7395346x^2 - 3162985x + 189992$	$[0, 1, -2, 1]$	$-2x^2 + 3x$	0	0.3993	0.4726
44	$7930034x^2 + 7585338x - 3697673$	$[1, 3, -1, 1]$	$x$	-1	0.1632	0.3480
45	$-11550355x^2 + 3352977x + 267344$	$[1, -1, 0, 1]$	$1 - x$	-1	0.2231	0.2421
46	$-19480389x^2 - 4232361x + 3965017$	$[0, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.3500	0.3810
47	$3085633x^2 - 21686638x + 7317994$	$[1, -2, -1, 1]$	$-2x^2 + 5x - 2$	-1	0.2063	0.2339
48	$-34116377x^2 + 20807254x - 3085633$	$[1, 1, -1, 1]$	$2x$	-1	0.3629	0.5008
49	$-37202010x^2 + 42493892x - 10403627$	$[0, -1, 1, 1]$	$x^2 - 3/2x$	0	0.2290	0.4183
50	$-13309123x^2 - 47605637x + 18601005$	$[1, 2, 0, 1]$	$x$	-1	0.1022	0.1257
51	$-121829520x^2 + 58189401x - 5291882$	$[1, 2, 1, 1]$	$2x - 1$	-1	0.1935	0.2380
52	$124554879x^2 + 127121402x - 60914760$	$[1, -3, -1, 1]$	$-x$	-1	0.07486	0.1639
53	$127280238x^2 + 312432205x - 127121402$	$[0, 1, 2, 1]$	$2x^2 - 3x$	0	0.3679	0.4899
54	$-376072324x^2 + 312273369x - 63481283$	$[1, 4, 1, 1]$	$1 - x$	1	0.3436	0.5903
55	$-251517445x^2 + 439394771x - 124396043$	$[1, 0, 1, 1]$	$x^2 - 3/2x - 1/2$	1	0.4253	0.5988
56	$251835117x^2 + 439553607x - 188036162$	$[1, -1, 1, 1]$	$-2x^2 - x + 1$	1	0.1668	0.2521
57	$-627589769x^2 + 751668140x - 187877326$	$[1, 1, 0, 1]$	$x^2 - 5/2x + 1/2$	1	0.1279	0.2251
58	$-379433027x^2 - 1630934190x + 627589769$	$[1, -3, -1, 1]$	$2x$	1	0.4281	0.5147
59	$-1762210475x^2 - 1318978493x + 691388724$	$[1, 2, 2, 1]$	$x^2 - 1/2x - 1/2$	1	0.2756	0.4724
60	$-2010367217x^2 + 1063623837x - 124078371$	$[1, -1, 1, 1]$	$-x^2 + 5/2x - 1/2$	1	0.09405	0.1207
61	$-3903853977x^2 - 4268891176x + 2010367217$	$[1, 2, 0, 1]$	$2x$	1	0.3014	0.6204
62	$-1893486760x^2 - 5332515013x + 2134445588$	$[0, -1, 1, 1]$	$x^2 - 3/2x$	0	0.1913	0.2461
63	$6279258393x^2 - 5573473841x + 1187702208$	$[1, -4, 0, 1]$	$1 - x$	1	0.1710	0.3119
64	$-8172745153x^2 + 240958828x + 946743380$	$[0, 1, -1, 1]$	$-x^2 + 1/2x + 1/2$	0	0.1597	0.1620
65	$14452003546x^2 - 5814432669x + 240958828$	$[0, -1, 2, 1]$	$-2x^2 + 3x$	0	0.4064	0.4723
66	$-15863572650x^2 - 14692962374x + 7226001773$	$[1, 3, -1, 1]$	$-x$	1	0.1740	0.3595
67	$-22624748699x^2 + 6055391497x + 705784552$	$[1, -1, 0, 1]$	$x - 1$	1	0.2282	0.2448
68	$-38488321349x^2 - 8637570877x + 7931786325$	$[0, 1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.3641	0.3979
69	$5349606945x^2 - 41255748914x + 13987177822$	$[1, 2, -1, 1]$	$-2x^2 + 5x - 2$	-1	0.1990	0.2252
70	$-66462676993x^2 + 38673569534x - 5349606945$	$[1, 1, -1, 1]$	$2x$	-1	0.3670	0.4937
71	$-71812283938x^2 + 79929318448x - 19336784767$	$[0, -1, 1, 1]$	$x^2 - 3/2x$	0	0.2159	0.4029
72	$-27789107459x^2 - 91149068705x + 35906141969$	$[1, 2, 0, 1]$	$x$	-1	0.09981	0.1246
73	$-237876352328x^2 + 107383137725x - 8117034510$	$[1, 2, 1, 1]$	$2x - 1$	-1	0.1966	0.2369
74	$249431390767x^2 + 245993386838x - 118938176164$	$[1, -3, -1, 1]$	$-x$	-1	0.07682	0.1690
75	$260986429206x^2 + 599369911401x - 245993386838$	$[0, 1, 2, 1]$	$2x^2 - 3x$	0	0.3609	0.4901
76	$-729863126004x^2 + 584376869033x - 115500172235$	$[1, 4, 1, 1]$	$1 - x$	1	0.3449	0.5747
77	$-480431735237x^2 + 830370255871x - 234438348399$	$[1, 0, 1, 1]$	$x^2 - 3/2x - 1/2$	1	0.4049	0.5727
78	$510417819973x^2 + 845363298239x - 364931563002$	$[1, -1, 1, 1]$	$-2x^2 - x + 1$	1	0.1645	0.2551
79	$-1210294861241x^2 + 1414747124904x - 349938520634$	$[1, 1, 0, 1]$	$x^2 - 5/2x + 1/2$	1	0.1208	0.2166
80	$-801390333915x^2 - 3120466763750x + 1210294861241$	$[1, -3, -1, 1]$	$2x$	1	0.4177	0.5081

Number:  $\xi = .6446\dots$  Equation:  $2x^3 - 3x^2 - 2x + 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1/2 - x$	-1	0.06007	0.1802
2	$-3x^2 + 2x$	$[2, -3, 0, 1]$	$2x - 2$	-2	0.3843	0.5551
3	$-x^2 - 4x + 3$	$[1, 6, -1, 2]$	$x - 1/2$	-1	0.09878	0.1605
4	$-6x^2 - 7x + 7$	$[1, 1, 2, 1]$	$2x^2 - x - 1$	-1	0.2461	0.6731
5	$-10x^2 + 8x - 1$	$[1, -5, 2, 1]$	$x - 1$	-1	0.1785	0.2946
6	$-7x^2 - 11x + 10$	$[1, 1, 0, 1]$	$x$	-1	0.1392	0.3107
7	$3x^2 - 19x + 11$	$[0, -1, 1, 1]$	$x^2 - 3/2x$	0	0.2291	0.3116
8	$-4x^2 - 30x + 21$	$[0, -1, 2, 1]$	$2x^2 - x - 1$	0	0.4646	0.7006
9	$-33x^2 - 2x + 15$	$[1, 2, 1, 1]$	$x^2 - 1$	1	0.3286	0.3977
10	$-37x^2 - 32x + 36$	$[0, 1, 1, 1]$	$2x - 2$	0	0.2937	0.7913
11	$32x^2 - 47x + 17$	$[1, 1, -1, 1]$	$3/2 - x$	-1	0.4053	0.6462
12	$-x^2 - 49x + 32$	$[1, 0, 1, 1]$	$-x$	-1	0.2840	0.4052
13	$-69x^2 + 15x + 19$	$[1, -1, 0, 1]$	$x^2 + 1/2x - 1$	-1	0.1477	0.1658
14	$-108x^2 - 115x + 119$	$[1, 2, 2, 1]$	$2x - 1$	-1	0.1270	0.3502
15	$-169x^2 + 126x - 11$	$[1, 4, -1, 1]$	$x - 1$	-1	0.09104	0.1420
16	$-446x^2 + 137x + 97$	$[0, 1, 2, 1]$	$2x^2 - x - 1$	0	0.5158	0.5889
17	$86x^2 + 486x - 349$	$[1, -3, 1, 1]$	$1 - x$	1	0.2177	0.3368
18	$-615x^2 + 263x + 86$	$[1, 1, 0, 1]$	$-x$	1	0.2247	0.2702
19	$-529x^2 + 749x - 263$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.1838	0.2981
20	$-1144x^2 + 1012x - 177$	$[0, 1, 2, 1]$	$2x^2 - x - 1$	0	0.3488	0.6301
21	$-1233x^2 - 572x + 881$	$[1, -2, 1, 1]$	$x^2 - 1$	1	0.2368	0.4087
22	$-1673x^2 + 1761x - 440$	$[1, 1, 0, 1]$	$-2x^2 + 5x - 2$	1	0.1894	0.3721
23	$-1937x^2 - 1893x + 2025$	$[1, 2, -1, 1]$	$x^2 + 1/2x - 1$	1	0.06566	0.1831
24	$5723x^2 - 3962x + 176$	$[1, -3, -1, 1]$	$2 - 2x$	1	0.3728	0.5518
25	$7660x^2 - 2069x - 1849$	$[0, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.2717	0.3073
26	$-1761x^2 - 7880x + 5811$	$[1, 3, 1, 1]$	$1 - x$	1	0.1022	0.1628
27	$-11182x^2 - 13691x + 13471$	$[0, -1, 2, 1]$	$2x^2 - x - 1$	0	0.2510	0.6613
28	$19282x^2 - 15980x + 2289$	$[1, 2, 1, 1]$	$1 - x$	1	0.1769	0.3009
29	$-12943x^2 - 21571x + 19282$	$[1, 1, 0, 1]$	$-x$	1	0.1427	0.3081
30	$-6339x^2 + 37551x - 21571$	$[0, -1, -1, 1]$	$-x^2 + 3/2x$	0	0.2385	0.3240
31	$-6604x^2 - 59122x + 40853$	$[0, 1, 2, 1]$	$-2x^2 + x + 1$	0	0.4810	0.7166
32	$-62689x^2 - 3302x + 28175$	$[1, -2, 1, 1]$	$x^2 - 1$	-1	0.3161	0.3808
33	$-69293x^2 - 62424x + 69028$	$[0, 1, 1, 1]$	$2x - 2$	0	0.2745	0.7697
34	$-62424x^2 + 93371x - 34249$	$[1, -1, 1, 1]$	$x - 3/2$	1	0.4264	0.6743
35	$-265x^2 - 96673x + 62424$	$[1, 0, -1, 1]$	$x$	1	0.2946	0.4174
36	$-131717x^2 + 30947x + 34779$	$[1, 1, 0, 1]$	$x^2 + 1/2x - 1$	1	0.1434	0.1613
37	$201540x^2 + 224823x - 228655$	$[1, -2, -2, 1]$	$-2x + 1$	1	0.1250	0.3429
38	$-325593x^2 + 251938x - 27115$	$[1, 4, 1, 1]$	$1 - x$	1	0.09006	0.1446
39	$-852726x^2 + 279053x + 174425$	$[0, -1, 2, 1]$	$2x^2 - x - 1$	0	0.5026	0.5774
40	$147310x^2 + 957354x - 678301$	$[1, 3, 1, 1]$	$1 - x$	1	0.2252	0.3435

41	$-1178319x^2 + 530991x + 147310$	$[1, 1, 0, 1]$	$-x$	1	0.2199	0.2679
42	$-1031009x^2 + 1488345x - 530991$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.1934	0.3108
43	$-2209328x^2 + 2019336x - 383681$	$[0, 1, 2, 1]$	$2x^2 - x - 1$	0	0.3467	0.6469
44	$-2325665x^2 - 1104664x + 1678337$	$[1, -2, 1, 1]$	$x^2 - 1$	1	0.2246	0.3922
45	$-3240337x^2 + 3507681x - 914672$	$[1, 1, 0, 1]$	$-2x^2 + 5x - 2$	1	0.2002	0.3847
46	$-3620321x^2 - 3697673x + 3887665$	$[1, 2, -1, 1]$	$x^2 + 1/2x - 1$	1	0.06450	0.1788
47	$11015667x^2 - 7930034x + 534688$	$[1, -3, -1, 1]$	$2 - 2x$	1	0.3681	0.5597
48	$14635988x^2 - 4232361x - 3352977$	$[0, -1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.2643	0.3003
49	$-3085633x^2 - 15515372x + 11283011$	$[1, 3, 1, 1]$	$1 - x$	1	0.1056	0.1656
50	$-20807254x^2 - 26798383x + 25918999$	$[0, -1, 2, 1]$	$2x^2 - x - 1$	0	0.2563	0.6505
51	$37202010x^2 - 31910128x + 5111745$	$[1, 2, 1, 1]$	$1 - x$	1	0.1755	0.3080
52	$-23892887x^2 - 42313755x + 37202010$	$[1, 1, 0, 1]$	$-x$	1	0.1464	0.3062
53	$13309123x^2 - 74223883x + 42313755$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.2483	0.3370
54	$-10583764x^2 - 116537638x + 79515765$	$[0, 1, 2, 1]$	$2x^2 - x - 1$	0	0.4981	0.7340
55	$-119104161x^2 - 5291882x + 52897519$	$[1, -2, 1, 1]$	$x^2 - 1$	1	0.3041	0.3647
56	$129687925x^2 + 121829520x - 132413284$	$[0, -1, -1, 1]$	$2 - 2x$	0	0.2672	0.7496
57	$121829520x^2 - 185469639x + 68932001$	$[1, 1, -1, 1]$	$x - 3/2$	1	0.4484	0.7038
58	$2725359x^2 - 190761521x + 121829520$	$[1, 0, 1, 1]$	$-x$	1	0.3057	0.4305
59	$248792086x^2 + 127121402x - 185310803$	$[1, 1, -1, 1]$	$-x^2 - 1/2x$	1	0.3837	0.6967
60	$251517445x^2 - 63640119x - 63481283$	$[0, 1, 1, 1]$	$x - 1$	0	0.1394	0.1572
61	$-375754652x^2 - 439712443x + 439553607$	$[1, 0, -2, 1]$	$-2x + 1$	-1	0.1232	0.3362
62	$627589769x^2 - 503511398x + 63798955$	$[1, 3, 1, 1]$	$1 - x$	-1	0.08918	0.1475
63	$1630934190x^2 - 567310353x - 311955697$	$[0, -1, 2, 1]$	$2x^2 - x - 1$	0	0.4900	0.5672
64	$-1879090932x^2 - 1318978493x + 1630934190$	$[1, 4, -1, 1]$	$-x$	-1	0.4193	0.9417
65	$-248156742x^2 - 1886288846x + 1318978493$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.2330	0.3509
66	$2258523959x^2 - 1070821751x - 248156742$	$[1, 1, 0, 1]$	$-x$	1	0.2153	0.2663
67	$2010367217x^2 - 2957110597x + 1070821751$	$[0, 1, 1, 1]$	$x^2 - 3/2x$	0	0.2035	0.3242
68	$4268891176x^2 - 4027932348x + 822665009$	$[0, 1, 2, 1]$	$2x^2 - x - 1$	0	0.3450	0.6650
69	$-4385771633x^2 - 2134445588x + 3198069425$	$[1, 1, -1, 1]$	$-x^2 + 1$	1	0.2129	0.3765
70	$6279258393x^2 - 6985042945x + 1893486760$	$[1, 1, 0, 1]$	$2x^2 - 5x + 2$	1	0.2116	0.3982
71	$6761176049x^2 + 7226001773x - 7466960601$	$[1, -2, -1, 1]$	$x^2 + 1/2x - 1$	1	0.06341	0.1748
72	$21213179595x^2 - 15863572650x + 1411569104$	$[1, 3, 1, 1]$	$2x - 2$	1	0.3638	0.5689
73	$27974355644x^2 - 8637570877x - 6055391497$	$[0, 1, 1, 1]$	$x^2 - 1/2x - 1/2$	0	0.2574	0.2940
74	$5349606945x^2 + 30556535024x - 21918964147$	$[1, 3, -1, 1]$	$x - 1$	-1	0.1091	0.1686
75	$38673569534x^2 + 52475499171x - 49893319791$	$[0, 1, 2, 1]$	$2x^2 - x - 1$	0	0.2619	0.6409
76	$71812283938x^2 - 63695249428x + 11219750257$	$[1, 2, -1, 1]$	$x - 1$	1	0.1743	0.3157
77	$44023176479x^2 + 83032034195x - 71812283938$	$[1, 1, 0, 1]$	$x$	1	0.1502	0.3048
78	$-27789107459x^2 + 146727283623x - 83032034195$	$[0, -1, 1, 1]$	$x^2 - 3/2x$	0	0.2586	0.3507
79	$226321313889x^2 + 8117034510x - 99266103215$	$[1, 2, 1, 1]$	$2x^2 + x - 1$	1	0.2926	0.3493
80	$242555382909x^2 + 237876352328x - 254110421348$	$[1, 1, 1, 1]$	$2x - 2$	1	0.2622	0.7310

Number:  $\xi = .5732\dots$  Equation:  $2x^3 - 2x^2 - 3x + 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-1/2x^2 - 1/2x + 3/4$	-1	0.09828	0.2948
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$2x - 2$	-1	0.3356	0.4195
3	$-3x^2 + 1$	$[0, 1, 1, 1]$	$x^2 - 1/2$	0	0.1295	0.1438
4	$3x^2 + 7x - 5$	$[2, -5, 2, 1]$	$-2x + 1$	2	0.1032	0.1747
5	$-14x^2 + 15x - 4$	$[1, 6, 2, 1]$	$2 - 2x$	2	0.4044	0.7854
6	$-17x^2 + 8x + 1$	$[0, -1, 1, 1]$	$x^2 - 1/2$	0	0.08906	0.1091
7	$50x^2 + x - 17$	$[1, 11, -5, 2]$	$-2x^2 + 1$	1	0.2642	0.2948
8	$x^2 + 57x - 33$	$[1, 5, 2, 1]$	$x - 1$	1	0.1465	0.1957
9	$52x^2 + 115x - 83$	$[0, 1, 2, 1]$	$2x^2 - 1$	0	0.2046	0.3529
10	$-115x^2 + 120x - 31$	$[1, -2, 2, 1]$	$1 - x$	-1	0.09506	0.1887
11	$-282x^2 + 125x + 21$	$[0, -1, 2, 1]$	$2x^2 - 1$	0	0.1800	0.2164
12	$157x^2 + 402x - 282$	$[1, 3, 0, 1]$	$-x$	-1	0.2097	0.3449
13	$-125x^2 + 527x - 261$	$[0, 1, 1, 1]$	$x^2 - x - 1/2$	0	0.2684	0.3493
14	$-836x^2 - 32x + 293$	$[1, 2, -1, 1]$	$-2x^2 - 2x + 1$	1	0.5426	0.6100
15	$32x^2 + 929x - 543$	$[1, 1, 0, 1]$	$1 - x$	1	0.2860	0.3840
16	$-961x^2 + 495x + 32$	$[1, 1, 0, 1]$	$-x$	1	0.1754	0.2221
17	$-929x^2 + 1424x - 511$	$[0, 1, 1, 1]$	$x^2 - x - 1/2$	0	0.2868	0.4458
18	$-1861x^2 - 1395x + 1411$	$[1, -2, 1, 1]$	$4x^2 + 2x - 3$	-1	0.2642	0.5646
19	$-1890x^2 + 1919x - 479$	$[1, 1, 0, 1]$	$-2x^2 + 4x - 1$	-1	0.1786	0.3630
20	$-2761x^2 - 3285x + 2790$	$[1, 2, -1, 1]$	$2x^2 + x - 2$	-1	0.4028	0.9780
21	$29x^2 - 3314x + 1890$	$[1, -1, 0, 1]$	$x^2 - x - 1/2$	-1	0.3053	0.4046
22	$-4651x^2 - 1366x + 2311$	$[1, 1, 0, 1]$	$x^2 + x - 1/2$	-1	0.2416	0.3220
23	$-2732x^2 - 6599x + 4680$	$[1, 1, 0, 1]$	$2x - 2$	-1	0.4151	0.6951
24	$6599x^2 - 7181x + 1948$	$[1, -2, 1, 1]$	$1 - x$	-1	0.2098	0.4024
25	$-7383x^2 - 7965x + 6991$	$[1, 1, 0, 1]$	$-x^2 - x + 1/2$	-1	0.1037	0.2727
26	$-15930x^2 + 7763x + 784$	$[1, -2, 0, 1]$	$2x - 2$	-1	0.3541	0.4390
27	$15146x^2 - 22909x + 8155$	$[1, 1, -1, 1]$	$-x^2 + x + 1/2$	-1	0.5453	0.8527
28	$-8167x^2 - 23111x + 15930$	$[1, 1, 1, 1]$	$-2x^2 - x + 2$	-1	0.4272	0.6834
29	$-23313x^2 - 202x + 7775$	$[0, -1, 1, 1]$	$1/2x^2 + 1/2x - 3/4$	0	0.1300	0.1445
30	$404x^2 + 53985x - 31076$	$[1, 0, -2, 1]$	$2 - 2x$	-1	0.5952	0.7924
31	$23717x^2 + 54187x - 38851$	$[0, -1, 1, 1]$	$x^2 - 1/2$	0	0.1028	0.1754
32	$-108374x^2 + 114925x - 30268$	$[2, 4, 3, 1]$	$2 - 2x$	-2	0.3948	0.7732
33	$-132091x^2 + 60738x + 8583$	$[0, -1, 1, 1]$	$x^2 - 1/2$	0	0.08942	0.1087
34	$389722x^2 + 10615x - 134123$	$[1, 10, -5, 2]$	$-2x^2 + 1$	-1	0.2669	0.2987
35	$10615x^2 + 439845x - 255599$	$[1, 5, 2, 1]$	$x - 1$	-1	0.1451	0.1942
36	$410952x^2 + 890305x - 645321$	$[0, 1, 2, 1]$	$2x^2 - 1$	0	0.2039	0.3545
37	$-890305x^2 + 919198x - 234369$	$[1, -2, 2, 1]$	$1 - x$	1	0.09277	0.1858
38	$-2191562x^2 + 948091x + 176583$	$[0, -1, 2, 1]$	$2x^2 - 1$	0	0.1808	0.2159
39	$1243471x^2 + 3110760x - 2191562$	$[1, 3, 0, 1]$	$-x$	1	0.2088	0.3459
40	$-948091x^2 + 4058851x - 2014979$	$[0, 1, 1, 1]$	$x^2 - x - 1/2$	0	0.2647	0.3444

41	$-6516900x^2 - 295380x + 2310359$	$[1, 2, -1, 1]$	$-2x^2 - 2x + 1$	-1	0.5483	0.6184
42	$295380x^2 + 7169611x - 4206541$	$[1, 1, 0, 1]$	$1 - x$	-1	0.2833	0.3813
43	$-7464991x^2 + 3763471x + 295380$	$[1, 1, 0, 1]$	$-x$	-1	0.1760	0.2210
44	$-7169611x^2 + 10933082x - 3911161$	$[0, 1, 1, 1]$	$x^2 - x - 1/2$	0	0.2812	0.4380
45	$-14572651x^2 - 10871131x + 11018821$	$[1, -2, 1, 1]$	$4x^2 + 2x - 3$	1	0.2695	0.5735
46	$-14634602x^2 + 14696553x - 3615781$	$[1, 1, 0, 1]$	$-2x^2 + 4x - 1$	1	0.1742	0.3575
47	$-21680311x^2 - 25505733x + 21742262$	$[1, 2, -1, 1]$	$2x^2 + x - 2$	1	0.4039	0.9892
48	$61951x^2 - 25567684x + 14634602$	$[1, -1, 0, 1]$	$x^2 - x - 1/2$	1	0.3022	0.4012
49	$-36314913x^2 - 10809180x + 18126481$	$[1, 1, 0, 1]$	$x^2 + x - 1/2$	1	0.2449	0.3277
50	$-21618360x^2 - 51073417x + 36376864$	$[1, 1, 0, 1]$	$2x - 2$	1	0.4136	0.6974
51	$51073417x^2 - 55022741x + 14758504$	$[1, -2, 1, 1]$	$1 - x$	1	0.2049	0.3961
52	$-57933273x^2 - 61882597x + 54503345$	$[1, 1, 0, 1]$	$-x^2 - x + 1/2$	1	0.1041	0.2761
53	$-123765194x^2 + 58972065x + 6859856$	$[1, -2, 0, 1]$	$2x - 2$	1	0.3554	0.4372
54	$116905338x^2 - 175877403x + 62401993$	$[1, 1, -1, 1]$	$-x^2 + x + 1/2$	1	0.5345	0.8379
55	$-64793129x^2 - 178787935x + 123765194$	$[1, 1, 1, 1]$	$-2x^2 - x + 2$	1	0.4252	0.6847
56	$181698467x^2 + 2910532x - 61363201$	$[0, 1, -1, 1]$	$-1/2x^2 - 1/2x + 3/4$	0	0.1314	0.1464
57	$5821064x^2 + 416547935x - 240670532$	$[1, 0, -2, 1]$	$2x - 2$	-1	0.5893	0.7862
58	$187519531x^2 + 419458467x - 302033733$	$[0, 1, 1, 1]$	$x^2 - 1/2$	0	0.1025	0.1761
59	$-838916934x^2 + 880425807x - 229028404$	$[2, -4, 3, 1]$	$2 - 2x$	2	0.3853	0.7613
60	$-1026436465x^2 + 460967340x + 73005329$	$[0, -1, 1, 1]$	$x^2 - 1/2$	0	0.08980	0.1084
61	$3037800522x^2 + 104501785x - 1057932921$	$[1, 10, -5, 2]$	$-2x^2 + 1$	1	0.2697	0.3028
62	$104501785x^2 + 3394266077x - 1979867601$	$[1, 5, 2, 1]$	$x - 1$	1	0.1437	0.1928
63	$3246804092x^2 + 6893033939x - 5017668123$	$[0, 1, 2, 1]$	$2x^2 - 1$	0	0.2033	0.3561
64	$-6893033939x^2 + 7040495924x - 1770864031$	$[1, -2, 2, 1]$	$1 - x$	-1	0.09051	0.1830
65	$-17032871970x^2 + 7187957909x + 1475940061$	$[0, -1, 2, 1]$	$2x^2 - 1$	0	0.1817	0.2154
66	$9844914061x^2 + 24073367894x - 17032871970$	$[1, 3, 0, 1]$	$-x$	-1	0.2080	0.3469
67	$-7187957909x^2 + 31261325803x - 15556931909$	$[0, 1, 1, 1]$	$x^2 - x - 1/2$	0	0.2612	0.3397
68	$-50803691940x^2 - 2656956152x + 18213888061$	$[1, 2, -1, 1]$	$-2x^2 - 2x + 1$	1	0.5542	0.6270
69	$2656956152x^2 + 55334693697x - 32589803879$	$[1, 1, 0, 1]$	$1 - x$	1	0.2806	0.3786
70	$-57991649849x^2 + 28604369651x + 2656956152$	$[1, 1, 0, 1]$	$-x$	1	0.1767	0.2200
71	$-55334693697x^2 + 83939063348x - 29932847727$	$[0, 1, 1, 1]$	$x^2 - x - 1/2$	0	0.2756	0.4304
72	$-113326343546x^2 + 112543432999x - 27275891575$	$[0, 1, 2, 1]$	$2x^2 - 1$	0	0.1723	0.3522
73	$-782910547x^2 - 197265406894x + 113326343546$	$[1, -3, -1, 1]$	$x$	1	0.2992	0.3980
74	$-282770291336x^2 + 111760522452x + 28841712669$	$[1, 2, 1, 1]$	$x^2 + x - 3/2$	1	0.3678	0.4291
75	$-283553201883x^2 - 85504884442x + 142168056215$	$[0, 1, 1, 1]$	$x^2 - 1$	0	0.2483	0.3334
76	$171009768884x^2 + 395313724335x - 282770291336$	$[1, -2, -1, 1]$	$2 - 2x$	-1	0.4120	0.7000
77	$-395313724335x^2 + 421569362345x - 111760522452$	$[1, 1, 1, 1]$	$1 - x$	-1	0.2000	0.3899
78	$-454562970767x^2 - 480818608777x + 424938347551$	$[1, -1, 0, 1]$	$x^2 + x - 1/2$	-1	0.1045	0.2796
79	$961637217554x^2 - 447825000355x - 59249246432$	$[1, -2, 0, 1]$	$2 - 2x$	-1	0.3569	0.4356
80	$-902387971122x^2 + 1350212971477x - 477449623571$	$[1, -1, -1, 1]$	$-x^2 + x + 1/2$	-1	0.5239	0.8234

Number:  $\xi = .7592\dots$  Equation:  $2x^3 - 2x^2 + 3x - 2 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-x^2 + x - 1/2$	0	0.1828	0.3656
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$-x^2 + x - 1/2$	-1	0.2319	0.3479
3	$3x^2 - x - 1$	$[1, 3, -1, 1]$	$-2x + 1$	-1	0.2705	0.3307
4	$-3x^2 - 3x + 4$	$[1, 2, -2, 1]$	$2/3x^2 + 2/3x - 2/3$	-1	0.1076	0.2286
5	$7x^2 - 4x - 1$	$[1, 2, 0, 1]$	$x^2 - x + 1/2$	-1	0.1045	0.1408
6	$8x^2 + 15x - 16$	$[1, -4, -1, 1]$	$2 - 2x$	-1	0.2630	0.5599
7	$-24x^2 + 9x + 7$	$[1, -3, 0, 1]$	$x^2 - x + 1/2$	-1	0.1877	0.2300
8	$-9x^2 - 34x + 31$	$[1, -2, 0, 1]$	$1 - x$	-1	0.09070	0.1725
9	$80x^2 - 12x - 37$	$[1, -3, 0, 1]$	$2x^2 - 2x + 1$	-1	0.3186	0.3939
10	$89x^2 + 22x - 68$	$[0, -1, 1, 1]$	$-x^2$	0	0.2272	0.3738
11	$12x^2 + 145x - 117$	$[1, -4, 0, 1]$	$-1/2x^2 - 1/2x + 1/4$	-1	0.2520	0.4178
12	$157x^2 - 135x + 12$	$[1, 1, -1, 1]$	$x$	-1	0.2243	0.3914
13	$258x^2 + 32x - 173$	$[1, 1, 1, 1]$	$-x^2 - x + 1/2$	-1	0.5061	0.7415
14	$-145x^2 + 280x - 129$	$[1, -1, 0, 1]$	$-1/2x$	-1	0.2263	0.3350
15	$415x^2 - 103x - 161$	$[1, 1, 0, 1]$	$2x - 1$	-1	0.2577	0.3123
16	$560x^2 - 383x - 32$	$[0, -1, 1, 1]$	$-4/3x^2 + 2/3x - 2/3$	0	0.4359	0.6412
17	$383x^2 + 489x - 592$	$[1, 2, 1, 1]$	$1 - x$	-1	0.1173	0.2464
18	$975x^2 - 486x - 193$	$[1, 1, 0, 1]$	$-x^2 + x - 1/2$	-1	0.1009	0.1300
19	$-972x^2 - 2339x + 2336$	$[1, -4, 0, 1]$	$2x - 2$	-1	0.2797	0.6071
20	$3308x^2 - 969x - 1171$	$[1, 3, 0, 1]$	$x^2 - x + 1/2$	-1	0.1775	0.2149
21	$-969x^2 - 5164x + 4479$	$[1, 2, 0, 1]$	$x - 1$	-1	0.1041	0.1862
22	$-10896x^2 + 568x + 5849$	$[1, -3, 0, 1]$	$-2x^2 + 2x - 1$	-1	0.2941	0.3797
23	$-11865x^2 - 4596x + 10328$	$[0, 1, 1, 1]$	$-x^2$	0	0.2010	0.3835
24	$-568x^2 - 21625x + 16745$	$[1, 4, 0, 1]$	$-1/2x^2 - 1/2x + 1/4$	1	0.2790	0.4464
25	$-22193x^2 + 17597x - 568$	$[1, 1, -1, 1]$	$x$	1	0.2231	0.3635
26	$-34626x^2 - 8624x + 26505$	$[1, 1, 1, 1]$	$-x^2 - x + 1/2$	1	0.4537	0.7477
27	$21625x^2 - 39222x + 17313$	$[1, -1, 0, 1]$	$-1/2x$	1	0.2210	0.3312
28	$-56819x^2 + 8973x + 25937$	$[1, 1, 0, 1]$	$2x - 1$	1	0.2404	0.2965
29	$-78444x^2 + 48195x + 8624$	$[0, -1, 1, 1]$	$-4/3x^2 + 2/3x - 2/3$	0	0.4257	0.5916
30	$-48195x^2 - 78095x + 87068$	$[1, 2, 1, 1]$	$1 - x$	1	0.1263	0.2666
31	$-135263x^2 + 57168x + 34561$	$[1, 1, 0, 1]$	$-x^2 + x - 1/2$	1	0.09668	0.1203
32	$114336x^2 + 360575x - 339648$	$[1, -4, 0, 1]$	$2x - 2$	1	0.3309	0.6577
33	$-453984x^2 + 93409x + 190751$	$[1, 3, 0, 1]$	$x^2 - x + 1/2$	1	0.1664	0.2028
34	$93409x^2 + 778318x - 644735$	$[1, 2, 0, 1]$	$x - 1$	1	0.1178	0.2003
35	$1476288x^2 + 80348x - 911901$	$[1, -3, 0, 1]$	$-2x^2 + 2x - 1$	1	0.2687	0.3721
36	$1569697x^2 + 858666x - 1556636$	$[0, 1, 1, 1]$	$-x^2$	0	0.1751	0.3997
37	$3045985x^2 + 939014x - 2468537$	$[0, 1, 2, 1]$	$-3/2x^2 + 1/2x - 1/4$	0	0.4847	0.8490
38	$-3126333x^2 + 2267667x + 80348$	$[1, 3, -2, 1]$	$2/9x^2 - 4/9x - 2/9$	1	0.2203	0.3364
39	$4615682x^2 + 1797680x - 4025173$	$[1, 1, 0, 1]$	$x^2 + x - 1/2$	1	0.4013	0.7674
40	$-3206681x^2 + 5474348x - 2307841$	$[1, 2, 0, 1]$	$-1/2x$	1	0.2143	0.3259



41	$-7742015x^2 + 469987x + 4105521$	$[1, -1, 0, 1]$	$-2x + 1$	1	0.2222	0.2855
42	$-10948696x^2 + 5944335x + 1797680$	$[0, 1, 1, 1]$	$-4/3x^2 + 2/3x - 2/3$	0	0.4128	0.5456
43	$5944335x^2 + 12276389x - 12746376$	$[1, 2, -1, 1]$	$x - 1$	-1	0.1347	0.2890
44	$-18690711x^2 + 6414322x + 5903201$	$[1, 1, 0, 1]$	$x^2 - x + 1/2$	-1	0.09188	0.1119
45	$12828644x^2 + 55049891x - 49187824$	$[1, 4, 0, 1]$	$2x - 2$	-1	0.3839	0.7112
46	$62016468x^2 - 6966577x - 30455979$	$[1, -3, 0, 1]$	$-x^2 + x - 1/2$	-1	0.1545	0.1937
47	$6966577x^2 + 116514104x - 92472447$	$[1, 2, 0, 1]$	$1 - x$	-1	0.1313	0.2145
48	$198878048x^2 + 34150160x - 140555761$	$[1, 3, 0, 1]$	$-2x^2 + 2x - 1$	-1	0.2428	0.3712
49	$205844625x^2 + 150664264x - 233028208$	$[0, 1, 1, 1]$	$-x^2$	0	0.1921	0.4223
50	$404722673x^2 + 184814424x - 373583969$	$[0, 1, 2, 1]$	$-3/2x^2 + 1/2x - 1/4$	0	0.4259	0.8776
51	$438872833x^2 - 288208569x - 34150160$	$[1, -3, 2, 1]$	$-2/9x^2 + 4/9x + 2/9$	-1	0.2161	0.3106
52	$610567298x^2 + 335478688x - 606612177$	$[1, 1, 0, 1]$	$-x^2 - x + 1/2$	-1	0.3495	0.8000
53	$-473022993x^2 + 761231562x - 305283649$	$[1, -2, 0, 1]$	$-1/2x$	-1	0.2062	0.3190
54	$1049440131x^2 + 47270119x - 640762337$	$[1, 1, 0, 1]$	$2x - 1$	-1	0.2032	0.2793
55	$1522463124x^2 - 713961443x - 335478688$	$[0, -1, 1, 1]$	$-4/3x^2 + 2/3x - 2/3$	0	0.3973	0.5040
56	$713961443x^2 + 1905211931x - 1857941812$	$[1, 2, 1, 1]$	$1 - x$	-1	0.1498	0.3133
57	$2571903255x^2 - 666691324x - 976241025$	$[1, 1, 0, 1]$	$-x^2 + x - 1/2$	-1	0.08660	0.1049
58	$-1333382648x^2 - 8334809167x + 7096288560$	$[1, -4, 0, 1]$	$2x - 2$	-1	0.4380	0.7667
59	$8429671208x^2 - 94862041x - 4786664887$	$[1, 3, 0, 1]$	$x^2 - x + 1/2$	-1	0.1421	0.1879
60	$-94862041x^2 - 17336309658x + 13216336095$	$[1, 2, 0, 1]$	$x - 1$	-1	0.1447	0.2289
61	$-26622396272x^2 - 8050223044x + 21456283221$	$[1, -3, 0, 1]$	$-2x^2 + 2x - 1$	-1	0.2165	0.3770
62	$-26717258313x^2 - 25386532702x + 34672619316$	$[0, 1, 1, 1]$	$-x^2$	0	0.2117	0.4508
63	$-53339654585x^2 - 33436755746x + 56128902537$	$[0, 1, 2, 1]$	$-3/2x^2 + 1/2x - 1/4$	0	0.4077	0.9206
64	$61389877629x^2 - 36003344927x - 8050223044$	$[1, 3, -2, 1]$	$2/9x^2 - 4/9x - 2/9$	-1	0.2105	0.2865
65	$-80056912898x^2 - 58823288448x + 90801521853$	$[1, 1, 0, 1]$	$x^2 + x - 1/2$	-1	0.3848	0.8453
66	$69440100673x^2 - 105443445600x + 40028456449$	$[1, 2, 0, 1]$	$-1/2x$	-1	0.1970	0.3108
67	$141446790527x^2 + 22819943521x - 98851744897$	$[1, -1, 0, 1]$	$-2x + 1$	-1	0.1837	0.2782
68	$210886891200x^2 - 82623502079x - 58823288448$	$[0, 1, 1, 1]$	$-4/3x^2 + 2/3x - 2/3$	0	0.3794	0.4672
69	$-82623502079x^2 - 292530123169x + 269710179648$	$[1, 2, -1, 1]$	$x - 1$	1	0.1758	0.3393
70	$352333681727x^2 - 59803558558x - 157675033345$	$[1, 1, 0, 1]$	$x^2 - x + 1/2$	1	0.08089	0.09942
71	$-1139624547260x^2 - 113119447495x + 742735279683$	$[0, 1, -3, 1]$	$2x^2 - 1$	0	0.1293	0.1855
72	$1252743994755x^2 - 2452172100573x + 1139624547260$	$[2, 7, 4, 1]$	$-x$	-2	0.4544	0.6711
73	$113119447495x^2 - 2565291548068x + 1882359826943$	$[0, 1, 1, 1]$	$-x^2 + x - 1/2$	0	0.1577	0.2430
74	$3538480758896x^2 + 1592102337240x - 3248223269193$	$[1, -7, -1, 2]$	$2x^2 - 2x + 1$	1	0.1904	0.3894
75	$3425361311401x^2 + 4157393885308x - 5130583096136$	$[0, -1, 1, 1]$	$-x^2$	0	0.2307	0.4850
76	$6963842070297x^2 + 5749496222548x - 8378806365329$	$[0, -1, 2, 1]$	$-3/2x^2 + 1/2x - 1/4$	0	0.4522	0.9775
77	$8555944407537x^2 - 4398550522229x - 1592102337240$	$[1, 2, 2, 1]$	$-2/9x^2 + 4/9x + 2/9$	-1	0.2035	0.2643
78	$10389203381698x^2 + 9906890107856x - 13509389461465$	$[1, 1, 0, 1]$	$-x^2 - x + 1/2$	-1	0.4239	0.9026
79	$-10148046744777x^2 + 14546597267006x - 5194601690849$	$[1, -2, 0, 1]$	$-1/2x$	-1	0.1866	0.3012
80	$18945147789235x^2 + 5508339585627x - 15101491798705$	$[1, 1, 0, 1]$	$2x - 1$	-1	0.1640	0.2822

Number:  $\xi = .3966\dots$  Equation:  $2x^3 - 2x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - 2x + 1$	$[1, -2, -1, 1]$	$2x^2$	-1	0.1979	0.2969
2	$-x^2 + 3x - 1$	$[1, -2, -1, 1]$	$x^2 + 1/2$	-1	0.2927	0.3578
3	$4x^2 + x - 1$	$[1, -2, -1, 1]$	$2x$	-1	0.4128	0.4644
4	$5x^2 - 2x$	$[0, -1, 1, 1]$	$-x^2 + x - 1/2$	0	0.1681	0.1951
5	$-9x^2 - 4x + 3$	$[1, 0, -2, 1]$	$2x^2$	-1	0.1714	0.2243
6	$x^2 - 13x + 5$	$[1, 3, 2, 1]$	$-x^2 - 1/2$	-1	0.2350	0.2712
7	$-8x^2 - 17x + 8$	$[0, 1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.2096	0.3024
8	$25x^2 - 20x + 4$	$[1, -2, 2, 1]$	$-x$	1	0.1797	0.2994
9	$-15x^2 - 47x + 21$	$[1, 2, 0, 1]$	$2x - 1$	1	0.1314	0.1710
10	$72x^2 + 37x - 26$	$[1, 2, -2, 1]$	$2x^2 - 2x + 1$	1	0.1607	0.2241
11	$87x^2 + 84x - 47$	$[0, -1, 1, 1]$	$-2x^2 + x - 1$	0	0.2154	0.4792
12	$109x^2 - 134x + 36$	$[1, 4, 2, 1]$	$-1/2x^2 + x - 3/4$	1	0.2208	0.3829
13	$159x^2 + 121x - 73$	$[1, 1, 0, 1]$	$-2x + 1$	1	0.06429	0.1151
14	$464x^2 - 63x - 48$	$[1, 2, 1, 1]$	$-2x^2 + 2x - 1$	1	0.2854	0.2938
15	$623x^2 + 58x - 121$	$[0, 1, 1, 1]$	$-2x^2 + x - 1$	0	0.4724	0.4943
16	$-63x^2 - 681x + 280$	$[1, -4, 1, 1]$	$x^2 + 1/2$	-1	0.3710	0.4369
17	$-686x^2 - 739x + 401$	$[0, -1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.2278	0.4911
18	$1087x^2 - 5x - 169$	$[1, 1, 0, 1]$	$x^2 - x + 1/2$	-1	0.1285	0.1316
19	$-1435x^2 - 2159x + 1082$	$[1, 2, 0, 1]$	$2x^2$	-1	0.1595	0.2699
20	$-1077x^2 + 3594x - 1256$	$[1, -3, -2, 1]$	$x^2 + 1/2$	-1	0.2904	0.3520
21	$5034x^2 + 719x - 1077$	$[1, -2, -1, 1]$	$2x$	-1	0.4520	0.4819
22	$-358x^2 - 5753x + 2338$	$[1, -1, 0, 1]$	$x^2 + 1/2$	-1	0.3880	0.4536
23	$-6111x^2 + 2875x - 179$	$[1, -1, 0, 1]$	$x$	-1	0.1736	0.2122
24	$11503x^2 + 3597x - 3236$	$[1, -1, -1, 1]$	$2x^2$	-1	0.1935	0.2278
25	$361x^2 - 15100x + 5932$	$[1, -2, -1, 1]$	$x^2 + 1/2$	-1	0.2192	0.2532
26	$-11142x^2 - 18697x + 9168$	$[0, -1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.1752	0.2796
27	$-29839x^2 + 25881x - 5571$	$[1, -2, -2, 1]$	$x$	-1	0.1770	0.3163
28	$-21923x^2 - 52494x + 24268$	$[1, 2, 0, 1]$	$-2x + 1$	-1	0.1133	0.1573
29	$92382x^2 + 34529x - 28226$	$[1, -2, -2, 1]$	$2x^2 - 2x + 1$	-1	0.1829	0.2256
30	$114305x^2 + 87023x - 52494$	$[0, -1, 1, 1]$	$-2x^2 + x - 1$	0	0.2571	0.4603
31	$-126911x^2 + 166799x - 46191$	$[1, -4, -2, 1]$	$1/2x^2 - x + 3/4$	-1	0.2365	0.3916
32	$206687x^2 + 121552x - 80720$	$[1, 1, 0, 1]$	$2x - 1$	-1	0.07509	0.1125
33	$574814x^2 - 125023x - 40832$	$[1, -2, 1, 1]$	$-2x^2 + 2x - 1$	-1	0.3028	0.3187
34	$125023x^2 + 778030x - 328239$	$[1, 4, -1, 1]$	$1 - x$	-1	0.3348	0.4030
35	$-449791x^2 + 903053x - 287407$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2964	0.4000
36	$906524x^2 + 774559x - 449791$	$[1, 1, 1, 1]$	$2x$	-1	0.2369	0.4683
37	$1356315x^2 - 128494x - 162384$	$[0, -1, 1, 1]$	$-x^2 + x - 1/2$	0	0.1383	0.1415
38	$1938071x^2 + 2327148x - 1227821$	$[1, 0, 2, 1]$	$-2x^2$	-1	0.1281	0.2525
39	$1099327x^2 - 4265219x + 1518699$	$[1, 3, -2, 1]$	$x^2 + 1/2$	-1	0.2828	0.3374
40	$6331784x^2 + 260583x - 1099327$	$[1, 2, 1, 1]$	$-2x$	-1	0.4943	0.5100

41	$838744x^2 + 6592367x - 2746520$	$[1, -1, 0, 1]$	$-x^2 - 1/2$	-1	0.3522	0.4190
42	$7170528x^2 + 6852950x - 3845847$	$[0, 1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.2172	0.4782
43	$7431111x^2 - 4004636x + 419372$	$[1, 1, 0, 1]$	$-x^2 + x - 1$	1	0.1775	0.2296
44	$14601639x^2 + 2848314x - 3426475$	$[0, 1, 1, 1]$	$-2x^2$	0	0.2156	0.2356
45	$578161x^2 + 17449953x - 7011739$	$[1, 1, -1, 1]$	$-x^2 - 1/2$	-1	0.2024	0.2353
46	$15179800x^2 + 20298267x - 10438214$	$[0, 1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.1428	0.2604
47	$35478067x^2 - 33207914x + 7589900$	$[1, 2, -2, 1]$	$x$	1	0.1730	0.3324
48	$30937761x^2 + 58046487x - 27888167$	$[1, 2, 0, 1]$	$-2x + 1$	1	0.09575	0.1451
49	$-117651856x^2 - 29378879x + 30158320$	$[1, -2, -2, 1]$	$2x^2 - 2x + 1$	1	0.2051	0.2314
50	$-148589617x^2 - 87425366x + 58046487$	$[0, -1, 1, 1]$	$-2x^2 + x - 1$	0	0.3003	0.4501
51	$147030735x^2 - 206636104x + 58825928$	$[1, -4, -2, 1]$	$1/2x^2 - x + 3/4$	1	0.2509	0.3983
52	$-266241473x^2 - 116804245x + 88204807$	$[1, 1, 0, 1]$	$2x - 1$	1	0.08613	0.1122
53	$-708892560x^2 + 209042597x + 28599438$	$[1, -2, 1, 1]$	$-2x^2 + 2x - 1$	1	0.3184	0.3466
54	$-209042597x^2 - 882895681x + 383045718$	$[1, 4, -1, 1]$	$1 - x$	1	0.2980	0.3708
55	$499849963x^2 - 1091938278x + 354446280$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2996	0.3939
56	$-1184176630x^2 - 790657329x + 499849963$	$[1, 1, 1, 1]$	$2x$	1	0.2795	0.4539
57	$-1393219227x^2 - 1673553010x + 882895681$	$[1, 0, 1, 1]$	$-2x^2 + x - 1$	1	0.5124	1.010
58	$1684026593x^2 - 301280949x - 145403683$	$[1, -1, 0, 1]$	$1/4x^2 - 1/2x - 1/8$	1	0.1473	0.1532
59	$-2577395857x^2 - 2464210339x + 1382745644$	$[1, 1, 0, 1]$	$2x^2$	1	0.1086	0.2391
60	$1081464695x^2 - 5041606196x + 1829430276$	$[1, 3, 1, 1]$	$-x^2 - 1/2$	1	0.2731	0.3216
61	$-1495931162x^2 - 7505816535x + 3212175920$	$[0, 1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.3156	0.3859
62	$9001747697x^2 - 5456072663x + 747965581$	$[1, -2, 2, 1]$	$-x$	-1	0.1800	0.2474
63	$-18417961861x^2 - 1635277405x + 3545675034$	$[1, 1, -2, 1]$	$2x^2$	-1	0.2371	0.2477
64	$-1910397629x^2 - 20053239266x + 8253782116$	$[1, 2, 1, 1]$	$-x^2 - 1/2$	-1	0.1847	0.2177
65	$-20328359490x^2 - 21688516671x + 11799457150$	$[0, 1, 1, 1]$	$-2x^2 + 2x - 1$	0	0.1127	0.2450
66	$-22238757119x^2 - 41741755937x + 20053239266$	$[0, 1, 2, 1]$	$-2x^2 + x - 1$	0	0.3831	0.5803
67	$42016876161x^2 - 42291996385x + 10164179745$	$[1, -2, 2, 1]$	$1/2x^2 - x + 3/4$	-1	0.1699	0.3474
68	$-42567116609x^2 - 63430272608x + 31852696416$	$[1, 1, 0, 1]$	$2x - 1$	-1	0.07904	0.1346
69	$-148839626050x^2 - 20588035775x + 31577576192$	$[1, -2, 1, 1]$	$-2x^2 + 2x - 1$	-1	0.2269	0.2414
70	$-191406742659x^2 - 84018308383x + 63430272608$	$[0, 1, 1, 1]$	$-2x^2 + x - 1$	0	0.3445	0.4487
71	$169427661825x^2 - 254837015267x + 74419813025$	$[1, 4, -2, 1]$	$1/2x^2 - x + 3/4$	1	0.2638	0.4029
72	$-340246368709x^2 - 104606344158x + 95007848800$	$[1, 1, 0, 1]$	$2x - 1$	1	0.09724	0.1140
73	$-870508435018x^2 + 321049377993x + 9598495358$	$[1, -2, 1, 1]$	$-2x^2 + 2x - 1$	1	0.3319	0.3770
74	$-321049377993x^2 - 994311769892x + 444852712867$	$[1, 4, -1, 1]$	$1 - x$	1	0.2613	0.3408
75	$549459057025x^2 - 1315361147885x + 435254217509$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.3005	0.3859
76	$-1531804181720x^2 - 777868736057x + 549459057025$	$[1, 1, 1, 1]$	$2x$	1	0.3233	0.4482
77	$-1852853559713x^2 - 1772180505949x + 994311769892$	$[1, 0, 1, 1]$	$-2x^2 + x - 1$	1	0.4342	0.9565
78	$2081263238745x^2 - 537492411828x - 114204839516$	$[1, -1, 0, 1]$	$1/4x^2 - 1/2x - 1/8$	1	0.1556	0.1664
79	$-3384657741433x^2 - 2550049242006x + 1543770826917$	$[1, 1, 0, 1]$	$2x^2$	1	0.1294	0.2298
80	$1006278415089x^2 - 5934706983439x + 2195468078261$	$[1, 3, 1, 1]$	$-x^2 - 1/2$	1	0.2616	0.3049

Number:  $\xi = .3210\dots$  Equation:  $2x^3 - x^2 - 3x + 1 = 0$ . “All” optimal polynomials.

1	$3x^2 - x$	$[0, -1, 3, 1]$	$2x^2 - x$	0	0.1066	0.1184
2	$-7x^2 - 4x + 2$	$[2, -4, -7, 1]$	$-2x^2 - x + 1$	-2	0.2744	0.3864
3	$9x^2 - 6x + 1$	$[1, 8, 1, 2]$	$-2x^2 + 3x - 1$	-1	0.1102	0.1606
4	$17x^2 + 7x - 4$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.1860	0.2278
5	$29x^2 - 28x + 6$	$[1, 4, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1315	0.2597
6	$43x^2 + 8x - 7$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.1367	0.1451
7	$16x^2 + 107x - 36$	$[1, -3, 2, 1]$	$2x - 1$	-1	0.3030	0.3441
8	$115x^2 - 12x - 8$	$[1, 2, 0, 1]$	$x$	-1	0.1124	0.1141
9	$305x^2 + 198x - 95$	$[1, 2, 2, 1]$	$2x^2 + x - 1$	-1	0.3737	0.5674
10	$-329x^2 + 143x - 12$	$[1, -3, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1057	0.1258
11	$725x^2 + 384x - 198$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.2426	0.3288
12	$-1011x^2 + 770x - 143$	$[1, 4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1147	0.1835
13	$-1779x^2 - 625x + 384$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.1679	0.1964
14	$-3319x^2 + 3464x - 770$	$[1, 4, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1547	0.3043
15	$-4569x^2 - 480x + 625$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.1272	0.1310
16	$-960x^2 - 11977x + 3944$	$[1, -3, 2, 1]$	$2x - 1$	-1	0.3129	0.3489
17	$-12457x^2 + 2504x + 480$	$[1, 2, 0, 1]$	$x$	-1	0.1087	0.1132
18	$-31403x^2 - 19426x + 9473$	$[1, 2, 2, 1]$	$2x^2 + x - 1$	-1	0.3266	0.4812
19	$36411x^2 - 19489x + 2504$	$[1, -3, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1067	0.1378
20	$-75263x^2 - 36348x + 19426$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.2155	0.2802
21	$114241x^2 - 97382x + 19489$	$[1, 4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1207	0.2119
22	$186937x^2 + 53207x - 36348$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.1528	0.1710
23	$381701x^2 - 425876x + 97382$	$[1, 4, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1927	0.3576
24	$488115x^2 + 9032x - 53207$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.1197	0.1212
25	$18064x^2 + 1348899x - 434908$	$[1, -3, 2, 1]$	$2x - 1$	-1	0.3272	0.3613
26	$1357931x^2 - 407812x - 9032$	$[1, 2, 0, 1]$	$x$	-1	0.1065	0.1161
27	$3240105x^2 + 1891206x - 941087$	$[1, 2, 2, 1]$	$2x^2 + x - 1$	-1	0.2866	0.4084
28	$-4055729x^2 + 2572335x - 407812$	$[1, -3, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1091	0.1541
29	$7838141x^2 + 3374600x - 1891206$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.1927	0.2396
30	$-12982811x^2 + 12180546x - 2572335$	$[1, 4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1285	0.2466
31	$-19732011x^2 - 4176865x + 3374600$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.1403	0.1507
32	$8353730x^2 + 48269968x - 16357411$	$[1, 3, -2, 1]$	$-2x + 1$	-1	0.3006	0.3441
33	$-44093103x^2 + 52096784x - 12180546$	$[1, 2, 1, 1]$	$1 - x$	-1	0.2377	0.4210
34	$-52446833x^2 + 3826816x + 4176865$	$[0, -1, 1, 1]$	$2x^2 + x - 1$	0	0.1139	0.1153
35	$-141333137x^2 - 93063169x + 44443152$	$[1, -4, 2, 1]$	$2x^2 + x - 1$	-1	0.3912	0.5995
36	$-148986769x^2 + 59750416x - 3826816$	$[1, 2, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1056	0.1227
37	$-335113107x^2 - 182299522x + 93063169$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.2527	0.3470
38	$454613939x^2 - 332064833x + 59750416$	$[1, -4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1130	0.1753
39	$-819212983x^2 - 304848628x + 182299522$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.1735	0.2062
40	$1483342649x^2 - 1510558854x + 332064833$	$[1, 4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1434	0.2886

41	$2093039905x^2 + 277632423x - 304848628$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.1302	0.1352
42	$-555264846x^2 - 5391790036x + 1788191277$	$[1, 3, -2, 1]$	$-2x + 1$	-1	0.3092	0.3464
43	$5669422459x^2 - 955294008x - 277632423$	$[1, 2, 0, 1]$	$-x$	-1	0.1097	0.1131
44	$14542414515x^2 + 9150624479x - 4436496028$	$[1, -2, 2, 1]$	$2x^2 + x - 1$	-1	0.3414	0.5083
45	$16453002531x^2 - 8257672060x + 955294008$	$[1, 3, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1062	0.1333
46	$34754251489x^2 + 17345954950x - 9150624479$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.2241	0.2954
47	$-51269595609x^2 + 42181312719x - 8257672060$	$[1, -4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1185	0.2018
48	$85961505509x^2 + 26434237840x - 17345954950$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.1575	0.1788
49	$-170324130947x^2 + 186071205826x - 42181312719$	$[1, 4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1793	0.3388
50	$-223192606627x^2 - 10687162961x + 26434237840$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.1220	0.1240
51	$21374325922x^2 + 606022181240x - 196758368787$	$[1, 3, -2, 1]$	$-2x + 1$	-1	0.3220	0.3563
52	$-616709344201x^2 + 164696879904x + 10687162961$	$[1, 2, 0, 1]$	$-x$	-1	0.1070	0.1147
53	$-1499359946873x^2 - 893337765633x + 441325301336$	$[1, -2, 2, 1]$	$2x^2 + x - 1$	-1	0.2992	0.4313
54	$-1828753706681x^2 + 1100112820952x - 164696879904$	$[1, 3, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1082	0.1482
55	$-3615429237947x^2 - 1621978651362x + 893337765633$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.1999	0.2523
56	$5815654879851x^2 - 5293789049441x + 1100112820952$	$[1, -4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1257	0.2343
57	$-9059612182575x^2 - 2143844481772x + 1621978651362$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.1442	0.1569
58	$-4287688963544x^2 - 21791034763229x + 7437633531213$	$[1, 3, 2, 1]$	$2x - 1$	-1	0.2986	0.3450
59	$19647190281457x^2 - 22797134849126x + 5293789049441$	$[1, -2, 1, 1]$	$1 - x$	-1	0.2219	0.3987
60	$23934879245001x^2 - 1006100085897x - 2143844481772$	$[0, -1, 1, 1]$	$2x^2 + x - 1$	0	0.1157	0.1168
61	$-65504748599665x^2 - 43713713836436x + 20784934677332$	$[1, 4, -2, 1]$	$-2x^2 - x + 1$	-1	0.4096	0.6333
62	$67516948771459x^2 - 24809335020920x + 1006100085897$	$[1, 2, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1058	0.1201
63	$154944376444331x^2 + 86421327586975x - 43713713836436$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.2634	0.3662
64	$204563046486171x^2 - 142951053920116x + 24809335020920$	$[1, 4, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1116	0.1677
65	$377405701660121x^2 + 148033320153030x - 86421327586975$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.1795	0.2166
66	$-663307809500353x^2 + 658225543267439x - 142951053920116$	$[1, -4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1348	0.2738
67	$959374449806413x^2 + 153115586385944x - 148033320153030$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.1333	0.1399
68	$306231172771888x^2 + 2428941122727235x - 811341129653383$	$[1, 3, 2, 1]$	$2x - 1$	-1	0.3059	0.3448
69	$-2582056709113179x^2 + 351994370495551x + 153115586385944$	$[1, -2, 0, 1]$	$-x$	-1	0.1110	0.1134
70	$6735950213576547x^2 + 4307009090849312x - 2076946752231684$	$[1, 2, -2, 1]$	$-2x^2 - x + 1$	-1	0.3571	0.5370
71	$-7439938954567649x^2 + 3484924234213888x - 351994370495551$	$[1, 3, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1059	0.1293
72	$-16053957136266273x^2 - 8262023811203073x + 4307009090849312$	$[1, -2, 0, 1]$	$2x^2 + x - 1$	-1	0.2331	0.3116
73	$-23023805604694049x^2 + 18246706027704864x - 3484924234213888$	$[1, 4, 0, 1]$	$2x^2 - 3x + 1$	-1	0.1165	0.1923
74	$-39547853227100195x^2 - 13039123388192258x + 8262023811203073$	$[1, 2, 0, 1]$	$2x^2 + x - 1$	-1	0.1625	0.1873
75	$76041265282509923x^2 - 81248847922022529x + 18246706027704864$	$[1, -4, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1667	0.3211
76	$-102119512058894439x^2 - 7831540748679652x + 13039123388192258$	$[1, 2, 0, 1]$	$-2x^2 - x + 1$	-1	0.1245	0.1273
77	$-15663081497359304x^2 - 272448748651619149x + 89080388670702181$	$[1, 3, 2, 1]$	$2x - 1$	-1	0.3172	0.3522
78	$280280289400298801x^2 - 65585766424663225x - 7831540748679652$	$[1, -2, 0, 1]$	$-x$	-1	0.1078	0.1138
79	$-694006253854210649x^2 - 421557505202591500x + 206862982226955924$	$[1, 2, -2, 1]$	$-2x^2 - x + 1$	-1	0.3124	0.4555
80	$825177786703537099x^2 - 469206047925608824x + 65585766424663225$	$[1, 3, 0, 1]$	$-2x^2 + 3x - 1$	-1	0.1073	0.1427

Number:  $\xi = .8400\dots$  Equation:  $2x^3 - x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2/3x^2 + 1/3x$	0	0.1344	0.2688
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-2/3x^2 + 1/3x$	-1	0.1024	0.1535
3	$4x^2 - x - 2$	[1, 5, -2, 1]	$-2x + 1$	-1	0.2784	0.3654
4	$5x^2 - 3x - 1$	[0, 1, 1, 1]	$-2/3x^2$	0	0.2047	0.2865
5	$-3x^2 - 7x + 8$	[1, 4, -2, 1]	$x - 1/2$	1	0.1782	0.3396
6	$14x^2 - 7x - 4$	[1, 2, 0, 1]	$2/3x^2 - x$	1	0.2017	0.2685
7	$14x^2 + 18x - 25$	[1, -3, 0, 1]	$1 - x$	1	0.1029	0.1884
8	$25x^2 - 46x + 21$	[1, 3, -1, 1]	$x$	1	0.2925	0.4399
9	$11x^2 - 64x + 46$	[0, -1, 1, 1]	$-2/3x^2 + 1/3x$	0	0.1078	0.1667
10	$-128x^2 + 123x - 13$	[1, -3, -4, 1]	$2x - 1$	1	0.2933	0.5673
11	$-187x^2 - 56x + 179$	[1, 4, 2, 1]	$1 - x$	1	0.1002	0.2009
12	$406x^2 - 497x + 131$	[2, -3, 0, 1]	$2/3x^2 - x$	2	0.2615	0.4541
13	$294x^2 + 478x - 609$	[1, -6, -1, 2]	$-x$	1	0.3298	0.6098
14	$700x^2 - 19x - 478$	[0, 1, 1, 1]	$-2/3x^2 + 1/3x$	0	0.08297	0.1217
15	$-369x^2 - 1509x + 1528$	[1, 1, -2, 1]	$x - 1$	-1	0.06324	0.1286
16	$4163x^2 + 1892x - 4527$	[1, 5, -1, 1]	$2x^2 - x$	-1	0.3171	0.6407
17	$4532x^2 + 3401x - 6055$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x$	0	0.4258	0.7986
18	$7181x^2 - 3780x - 1892$	[1, 5, 2, 1]	$-2/5x^2 + 2/5x + 1/5$	-1	0.1520	0.2046
19	$15876x^2 + 1513x - 12474$	[1, 1, 1, 1]	$-2/3x^2 - x + 1$	-1	0.2306	0.3751
20	$-24192x^2 + 18521x + 1513$	[1, -4, 0, 1]	$2/3x^2 - 1/3x$	-1	0.1020	0.1621
21	$30617x^2 + 19280x - 37801$	[1, 3, 1, 1]	$x - 1$	-1	0.03982	0.07631
22	$167453x^2 - 71812x - 57840$	[1, -5, 1, 1]	$-2x^2 + x$	-1	0.4464	0.5818
23	$198070x^2 - 52532x - 95641$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x$	0	0.4687	0.6110
24	$-7943x^2 + 206013x - 167453$	[1, 6, -1, 1]	$2/5x^2 - 2/5x + 4/5$	1	0.3784	0.6290
25	$159510x^2 + 134201x - 225293$	[1, 0, 1, 1]	$-x^2 + 1/2x - 1/2$	1	0.3556	0.6599
26	$206013x^2 - 258545x + 71812$	[1, -1, 0, 1]	$-1/2x^2 + 1/2x - 1/2$	1	0.2027	0.3470
27	$151567x^2 + 340214x - 392746$	[1, 1, 0, 1]	$2/3x^2 - x + 1$	1	0.2948	0.5599
28	$571536x^2 - 382889x - 81669$	[1, 2, 0, 1]	$-4/5x^2 + 4/5x - 3/5$	1	0.3075	0.4518
29	$-668657x^2 - 556084x + 938973$	[1, -2, -1, 1]	$x - 1$	1	0.1328	0.2466
30	$1294639x^2 - 425564x - 556084$	[1, 2, 0, 1]	$2/3x^2 - 1/3x$	1	0.04806	0.06212
31	$-851128x^2 - 4570521x + 4440001$	[1, 6, 2, 1]	$2x - 1$	1	0.4074	0.8059
32	$-2145767x^2 - 4144957x + 4996085$	[0, -1, 1, 1]	$-2/3x^2$	0	0.2290	0.4288
33	$-7141852x^2 + 1571736x + 3719393$	[1, -5, 0, 1]	$-x^2 + 1/2x - 1/2$	1	0.3676	0.4851
34	$-9287619x^2 - 2573221x + 8715478$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.1696	0.3320
35	$-5142662x^2 - 12860435x + 14432171$	[1, 2, 0, 1]	$-2/5x^2 - 3/5x + 1/5$	-1	0.2401	0.4613
36	$-15431766x^2 + 22146164x - 7713993$	[1, 2, -2, 1]	$x$	-1	0.4750	0.7633
37	$-14430281x^2 - 15433656x + 23147649$	[1, 1, 0, 1]	$-x$	-1	0.4359	0.7991
38	$29862047x^2 - 6712508x - 15433656$	[0, -1, -1, 1]	$2/3x^2 - 1/3x$	0	0.1382	0.1820
39	$40151151x^2 - 41719107x + 6712508$	[1, -2, -1, 1]	$-2/3x^2 + 1/3x$	-1	0.05135	0.1002
40	$-83438214x^2 - 65309330x + 113740945$	[1, -5, 2, 1]	$2x - 1$	-1	0.2596	0.4848

41	$123589365x^2 + 23590223x - 107028437$	$[0, 1, -1, 1]$	$2/3x^2$	0	0.1442	0.251
42	$230617802x^2 - 215308043x + 18128884$	$[1, 5, 0, 1]$	$-x^2 + 1/2x - 1/2$	1	0.3944	0.740
43	$23590223x^2 - 304207596x + 238898266$	$[1, -1, 1, 1]$	$-1/2x^2 + 1/2x - 1/2$	1	0.2970	0.483
44	$330616944x^2 + 112489776x - 327797819$	$[1, 1, -1, 1]$	$2/3x^2 - x$	1	0.1297	0.273
45	$684824111x^2 - 79228044x - 416697372$	$[0, 1, 2, 1]$	$-x^2$	0	0.3926	0.544
46	$-52818696x^2 - 936213011x + 823723235$	$[1, 2, -1, 1]$	$2/3x - 1/3$	-1	0.1663	0.293
47	$962622359x^2 - 902951279x + 79228044$	$[1, 1, 1, 1]$	$-x$	-1	0.1477	0.273
48	$909803663x^2 - 1839164290x + 902951279$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3x$	0	0.1027	0.152
49	$3678328580x^2 - 915655859x - 1826459710$	$[1, -2, 3, 1]$	$-2x + 1$	1	0.2793	0.363
50	$4588132243x^2 - 2754820149x - 923508431$	$[0, 1, 1, 1]$	$-2/3x^2$	0	0.2044	0.280
51	$-2754820149x^2 - 6428296721x + 7343952580$	$[1, 4, -2, 1]$	$x - 1/2$	-1	0.1781	0.333
52	$10099772917x^2 - 12853592878x + 3670476008$	$[1, 2, 1, 1]$	$2/3x^2 - x + 1$	-1	0.3439	0.582
53	$12854593066x^2 - 6425296157x - 3673476572$	$[0, -1, 1, 1]$	$-2/5x^2 - 3/5x + 1/5$	0	0.2017	0.263
54	$22954365983x^2 - 19278889035x - 3000564$	$[0, -1, 2, 1]$	$-x^2$	0	0.4538	0.773
55	$12852592690x^2 + 16530070014x - 22955366171$	$[1, -3, 0, 1]$	$1/3 - 2/3x$	1	0.1029	0.183
56	$22956366359x^2 - 42234255206x + 19278889035$	$[1, 1, -1, 1]$	$x$	1	0.2925	0.433
57	$10103773669x^2 - 58764325220x + 42234255206$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3x$	0	0.1078	0.160
58	$117528650440x^2 - 112921514625x + 11922934199$	$[1, 2, 3, 1]$	$-2x + 1$	1	0.2934	0.561
59	$-171685839845x^2 - 51448526836x + 164370041461$	$[1, 4, -2, 1]$	$x - 1$	1	0.1001	0.200
60	$372793498658x^2 - 456293194315x + 120237313009$	$[2, 3, 0, 1]$	$2/3x^2 - x$	2	0.2614	0.454
61	$-269896444986x^2 - 438952934978x + 559190247987$	$[1, 6, 1, 2]$	$x$	1	0.3298	0.603
62	$-642689943644x^2 + 17340259337x + 438952934978$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3x$	0	0.08297	0.123
63	$-338685231159x^2 - 1385647591107x + 1402987850444$	$[1, 1, 2, 1]$	$1 - x$	1	0.06325	0.123
64	$-3822031394365x^2 - 1737899229400x + 4156942773321$	$[1, 5, 1, 1]$	$-2x^2 + x$	1	0.3172	0.640
65	$-4160716625524x^2 - 3123546820507x + 5559930623765$	$[0, 1, 1, 1]$	$-2/3x^2 - 1/3x$	0	0.4258	0.793
66	$-6593326576579x^2 + 3469779756072x + 1737899229400$	$[1, -5, 2, 1]$	$-2/5x^2 + 2/5x + 1/5$	-1	0.1520	0.204
67	$-14576074596468x^2 - 1391666293835x + 11454772626486$	$[1, 1, 1, 1]$	$-2/3x^2 - x + 1$	-1	0.2306	0.373
68	$22212589680792x^2 - 17002665844795x - 1391666293835$	$[1, -4, 0, 1]$	$2/3x^2 - 1/3x$	-1	0.1020	0.163
69	$-28108960685191x^2 - 17707884970228x + 34710550815023$	$[1, 3, 1, 1]$	$x - 1$	-1	0.03983	0.076
70	$-153747983685619x^2 + 65913777959912x + 53123654910684$	$[1, -5, 1, 1]$	$-2x^2 + x$	-1	0.4464	0.583
71	$-181856944370810x^2 + 48205892989684x + 87834205725707$	$[0, 1, 1, 1]$	$-2/3x^2 - 1/3x$	0	0.4687	0.613
72	$7306809255265x^2 - 189163753626075x + 153747983685619$	$[1, 6, -1, 1]$	$2/5x^2 - 2/5x + 4/5$	1	0.3785	0.623
73	$-146441174430354x^2 - 123249975666163x + 206871638596303$	$[1, 0, 1, 1]$	$-x^2 + 1/2x - 1/2$	1	0.3556	0.660
74	$-189163753626075x^2 + 237369646615759x - 65913777959912$	$[1, -1, 0, 1]$	$-1/2x^2 + 1/2x - 1/2$	1	0.2026	0.340
75	$-139134365175089x^2 - 312413729292238x + 360619622281922$	$[1, 1, 0, 1]$	$2/3x^2 - x + 1$	1	0.2948	0.560
76	$-524768681682504x^2 + 351489317565355x + 75044082676479$	$[1, 2, 0, 1]$	$-4/5x^2 + 4/5x - 3/5$	1	0.3075	0.453
77	$613873658406607x^2 + 510707787634880x - 862197105200235$	$[1, -2, -1, 1]$	$x - 1$	1	0.1328	0.240
78	$-1188671728540097x^2 + 390564905838472x + 510707787634880$	$[1, 2, 0, 1]$	$2/3x^2 - 1/3x$	1	0.04806	0.062
79	$781129811676944x^2 + 4196865855051579x - 4076722973255171$	$[1, 6, 2, 1]$	$2x - 1$	1	0.4074	0.800
80	$1969801540217041x^2 + 3806300949213107x - 4587430760890051$	$[0, -1, 1, 1]$	$-2/3x^2$	0	0.2290	0.423

Number:  $\xi = .6316\dots$  Equation:  $2x^3 - x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1/2 x^2 + 3/4 x - 3/4$	-1	0.03063	0.09189
2	$-5x^2 + 2$	$[2, -3, 2, 1]$	$-2x^2 + x$	-2	0.1274	0.1477
3	$7x^2 - 6x + 1$	$[1, 12, -5, 2]$	$x^2 - 1/2 x + 1/2$	-1	0.1456	0.2555
4	$12x^2 - 6x - 1$	$[0, -1, 1, 1]$	$-x^2 - 1/2 x$	0	0.3058	0.3844
5	$-12x^2 - 13x + 13$	$[1, 5, 2, 1]$	$x - 1$	-1	0.1322	0.3770
6	$31x^2 + x - 13$	$[1, 1, -1, 1]$	$x^2 - 1/2 x$	-1	0.06251	0.07357
7	$-117x^2 - 48x + 77$	$[1, 3, -3, 1]$	$2x^2 + x - 1$	-1	0.3825	0.6126
8	$-119x^2 + 72x + 2$	$[1, -11, -2, 1]$	$-1/4 x^2 + 3/8 x + 1/4$	-1	0.1532	0.2093
9	$-121x^2 + 192x - 73$	$[0, -1, 2, 1]$	$-x^2 + 1/2 x - 1/2$	0	0.2326	0.3585
10	$240x^2 - 264x + 71$	$[0, 1, -3, 1]$	$x^2 + 1/2 x$	0	0.3143	0.5967
11	$144x^2 + 289x - 240$	$[1, -3, 2, 1]$	$-x$	-1	0.2379	0.4610
12	$384x^2 + 25x - 169$	$[0, 1, 1, 1]$	$-x^2 + 1/2 x - 1/2$	0	0.2449	0.2934
13	$528x^2 + 314x - 409$	$[0, 1, 2, 1]$	$-x^2 - 1/2 x$	0	0.3310	0.6467
14	$-745x^2 + 431x + 25$	$[1, -2, -1, 1]$	$1/2 x^2 - 1/2 x$	-1	0.07666	0.1024
15	$1607x^2 + 1423x - 1540$	$[2, 3, 1, 1]$	$2x - 2$	-2	0.2628	0.7102
16	$-862x^2 - 1854x + 1515$	$[0, -1, -1, 1]$	$1/2 x^2 + 1/4 x$	0	0.1250	0.2355
17	$-2285x^2 + 2808x - 862$	$[1, 9, 1, 2]$	$x$	-1	0.1811	0.3181
18	$-1423x^2 + 4662x - 2377$	$[0, -1, 1, 1]$	$-x^2 + 1/2 x - 1/2$	0	0.2912	0.3940
19	$5616x^2 + 2323x - 3708$	$[1, -2, -1, 1]$	$-x^2 + 3/2 x - 1$	-1	0.1908	0.3066
20	$-9324x^2 + 5147x + 469$	$[1, 1, -1, 1]$	$x^2 - 1/2 x + 1/2$	-1	0.3066	0.4009
21	$9809x^2 + 9308x - 9793$	$[1, 2, 0, 1]$	$x - 1$	-1	0.1250	0.3622
22	$14455x^2 - 17279x + 5147$	$[1, -2, -1, 1]$	$-1/2 x^2 + 3/4 x - 1/2$	-1	0.08757	0.1566
23	$34558x^2 + 15792x - 23763$	$[1, 3, 1, 1]$	$-2x + 1$	-1	0.09223	0.1551
24	$33071x^2 - 75600x + 34558$	$[1, 4, -1, 1]$	$x$	-1	0.2788	0.3904
25	$-1487x^2 - 91392x + 58321$	$[0, -1, 1, 1]$	$-x^2 + 1/2 x - 1/2$	0	0.2376	0.3344
26	$151200x^2 - 45503x - 31584$	$[1, 3, 1, 1]$	$x^2 - 3/2 x + 1$	-1	0.2936	0.3330
27	$182784x^2 - 212495x + 61295$	$[1, 1, 1, 1]$	$-x^2 + 1/2 x - 1/2$	-1	0.3382	0.6166
28	$-121103x^2 - 212881x + 182784$	$[1, -2, 1, 1]$	$x$	-1	0.2144	0.4419
29	$303887x^2 + 386x - 121489$	$[0, 1, -1, 1]$	$x^2 - 1/2 x + 1/2$	0	0.2548	0.2955
30	$-424990x^2 - 213267x + 304273$	$[0, -1, 2, 1]$	$x^2 + 1/2 x$	0	0.3562	0.6285
31	$212881x^2 - 470879x + 212495$	$[1, 1, 1, 1]$	$-1/2 x$	-1	0.1381	0.1945
32	$941758x^2 - 257226x - 213267$	$[1, -1, 1, 1]$	$-2x + 1$	-1	0.1454	0.1638
33	$-728105x^2 - 1368678x + 1155025$	$[1, 3, -1, 1]$	$x - 1$	-1	0.1132	0.2258
34	$-514452x^2 - 2994582x + 2096783$	$[0, 1, 2, 1]$	$-x^2 - 1/2 x$	0	0.3872	0.5885
35	$3251808x^2 - 2868461x + 514452$	$[1, 4, 1, 1]$	$-x$	1	0.2884	0.5200
36	$-1242557x^2 - 4363260x + 3251808$	$[1, 1, 0, 1]$	$x$	1	0.3280	0.5368
37	$-4494365x^2 - 1494799x + 2737356$	$[0, -1, 1, 1]$	$-x^2 + 1/2 x - 1/2$	0	0.2029	0.3007
38	$-5736922x^2 - 5858059x + 5989164$	$[0, -1, 2, 1]$	$-x^2 - 1/2 x$	0	0.2576	0.7404
39	$7231721x^2 - 4368244x - 126121$	$[1, 2, -1, 1]$	$-1/2 - 1/2 x$	-1	0.3064	0.4183
40	$1494799x^2 - 10226303x + 5863043$	$[0, 1, 1, 1]$	$-1/2 x^2 + 3/4 x - 1/2$	0	0.1383	0.1867



41	$-20452606x^2 + 17467992x - 2873445$	$[1, -1, -3, 1]$	$2x - 1$	1	0.1457	0.2548
42	$-27694295x^2 - 10337472x + 17579161$	$[1, 4, 2, 1]$	$1 - x$	1	0.09838	0.1517
43	$-34935984x^2 - 38142936x + 38031767$	$[0, -1, 2, 1]$	$-x^2 - 1/2x$	0	0.1334	0.3779
44	$-62630279x^2 - 48480408x + 55610928$	$[0, -1, 3, 1]$	$-x^2$	0	0.1435	0.3426
45	$118241207x^2 - 41955335x - 20674944$	$[1, -3, -2, 1]$	$x^2 - 1/2x + 1/2$	-1	0.2983	0.3449
46	$-160196542x^2 - 135103752x + 149253623$	$[1, 2, 0, 1]$	$x - 3/2$	-1	0.4754	1.226
47	$-138916151x^2 + 170534014x - 52292807$	$[1, -2, -1, 1]$	$-4/7x^2 + 3/7x - 5/7$	-1	0.3618	0.6359
48	$-41955335x^2 - 177059087x + 128578679$	$[1, 1, 0, 1]$	$1/2x^2 - 3/4x + 1/2$	-1	0.08805	0.1394
49	$-383023363x^2 - 318687912x + 354118174$	$[1, 1, 2, 1]$	$-2x^2 + x$	-1	0.06853	0.1745
50	$-737141537x^2 + 241394538x + 141628825$	$[1, -4, 2, 1]$	$-x^2 + 1/2x - 1/2$	-1	0.1480	0.1694
51	$1120164900x^2 + 77293374x - 495746999$	$[0, -1, -1, 1]$	$x^2 + 1/2x$	0	0.2443	0.2933
52	$-1857306437x^2 + 164101164x + 637375824$	$[0, 1, 2, 1]$	$x^2$	0	0.2680	0.3016
53	$-482789076x^2 - 2253287723x + 1615911899$	$[1, 5, -2, 1]$	$-1/2x^2 - 3/4x - 1/4$	1	0.3642	0.5681
54	$-2340095513x^2 - 2089186559x + 2253287723$	$[0, 1, 1, 1]$	$-x^2 + 1/2x$	0	0.03266	0.08897
55	$11526861985x^2 - 665919072x - 4178373118$	$[2, -5, 0, 1]$	$2x^2 - x$	-2	0.1318	0.1496
56	$15705235103x^2 - 14281967616x + 2755105631$	$[1, 11, 5, 2]$	$-x^2 + 1/2x - 1/2$	-1	0.1427	0.2651
57	$27232097088x^2 - 14947886688x - 1423267487$	$[0, 1, 1, 1]$	$-x^2 - 1/2x$	0	0.3066	0.3998
58	$-28563935232x^2 - 27323526431x + 28655364575$	$[1, -5, 2, 1]$	$x - 1$	1	0.1251	0.3630
59	$-29895773376x^2 - 69594939550x + 55887461663$	$[0, 1, 2, 1]$	$-x^2 - 1/2x$	0	0.5273	0.9646
60	$71501267423x^2 - 1906327873x - 27323526431$	$[1, 1, -1, 1]$	$1/2x^2 - 1/2x$	-1	0.06475	0.07425
61	$-75313923169x^2 - 265338199385x + 197649587708$	$[2, 3, 1, 1]$	$2x - 2$	-2	0.6569	1.074
62	$-3812655746x^2 - 267244527258x + 170326061277$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/4x$	0	0.2382	0.3349
63	$269150855131x^2 - 176045044896x + 3812655746$	$[1, 9, 1, 2]$	$-x$	1	0.1526	0.2179
64	$265338199385x^2 - 443289572154x + 174138717023$	$[0, 1, 1, 1]$	$-x^2 + 1/2x - 1/2$	0	0.2414	0.3651
65	$534489054516x^2 - 619334617050x + 177951372769$	$[0, 1, 2, 1]$	$-x^2 - 1/2x$	0	0.3368	0.6154
66	$-352090089792x^2 - 623782209005x + 534489054516$	$[1, 2, -1, 1]$	$x$	1	0.2158	0.4430
67	$886579144308x^2 + 4447591955x - 356537681747$	$[0, 1, -1, 1]$	$x^2 - 1/2x + 1/2$	0	0.2542	0.2953
68	$-1238669234100x^2 - 628229800960x + 891026736263$	$[0, -1, 2, 1]$	$x^2 + 1/2x$	0	0.3547	0.6295
69	$1686406398209x^2 - 1058176597249x - 4447591955$	$[1, 2, -1, 1]$	$1/2x^2 - 1/2x$	1	0.07649	0.1066
70	$3802759592707x^2 + 2951761184039x - 3381707980328$	$[2, -3, -1, 1]$	$2 - 2x$	2	0.2865	0.6857
71	$2116353194498x^2 + 4009937781288x - 3377260388373$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/4x$	0	0.1139	0.2263
72	$5068114378537x^2 - 6551790180120x + 2116353194498$	$[1, 9, -1, 2]$	$x$	1	0.1920	0.3269
73	$2951761184039x^2 - 10561727961408x + 5493613582871$	$[0, -1, 1, 1]$	$-x^2 + 1/2x - 1/2$	0	0.2910	0.3924
74	$13103580360240x^2 + 4419846566495x - 8019875562576$	$[1, 2, 1, 1]$	$x^2 - 3/2x + 1$	1	0.2022	0.3010
75	$21123455922816x^2 - 12693671575033x - 409908785207$	$[1, 1, 1, 1]$	$-x^2 + 1/2x - 1/2$	1	0.3064	0.4172
76	$-23255399536441x^2 - 19401421094398x + 21533364708023$	$[1, -2, 0, 1]$	$x - 1$	1	0.1368	0.3493
77	$32095092669431x^2 - 40368917677969x + 12693671575033$	$[1, 2, 1, 1]$	$1/2x^2 - 3/4x + 1/2$	1	0.09307	0.1611
78	$-80737835355938x^2 - 30529017180258x + 51496513763829$	$[1, 3, -1, 1]$	$2x - 1$	1	0.09802	0.1519
79	$-70897934858227x^2 + 172603266797736x - 80737835355938$	$[1, -4, -1, 1]$	$x$	1	0.2830	0.3926
80	$9839900497711x^2 + 203132283977994x - 132234349119767$	$[0, -1, 1, 1]$	$-x^2 + 1/2x - 1/2$	0	0.2285	0.3259

Number:  $\xi = .3456\dots$  Equation:  $2x^3 - x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$2x^2 + x$	-1	0.2793	0.6285
2	$-3x^2 + x$	$[1, -3, 0, 1]$	$-2/3x^2 + 2/3x - 1/3$	-1	0.1147	0.1275
3	$-6x^2 + 5x - 1$	$[1, -1, 3, 1]$	$-2x^2 + x - 1$	-1	0.4099	0.7060
4	$-2x^2 - 8x + 3$	$[1, 4, -2, 1]$	$-x$	-1	0.2519	0.3031
5	$-9x^2 + 6x - 1$	$[1, 1, 0, 1]$	$x$	-1	0.1102	0.1605
6	$-12x^2 - 19x + 8$	$[1, 3, 0, 1]$	$-2x + 1$	-1	0.1516	0.2390
7	$25x^2 - 26x + 6$	$[1, -3, 0, 1]$	$-x$	-1	0.09813	0.1941
8	$52x^2 + 37x - 19$	$[1, -3, 1, 1]$	$-2x + 1$	-1	0.1212	0.1987
9	$63x^2 - 97x + 26$	$[1, 3, 0, 1]$	$x$	-1	0.1457	0.2177
10	$-131x^2 - 137x + 63$	$[1, -3, 0, 1]$	$2x$	-1	0.2010	0.4272
11	$-194x^2 - 40x + 37$	$[0, -1, 1, 1]$	$-x^2 + 1/2x - 1/2$	0	0.1800	0.1942
12	$-137x^2 + 328x - 97$	$[1, -3, 0, 1]$	$x$	-1	0.1778	0.2244
13	$-519x^2 - 217x + 137$	$[1, 2, 0, 1]$	$-2x$	-1	0.3078	0.3830
14	$-656x^2 + 111x + 40$	$[0, 1, 1, 1]$	$-x^2 + 1/2x - 1/2$	0	0.2196	0.2267
15	$-439x^2 - 913x + 368$	$[1, -2, 1, 1]$	$1 - x$	1	0.2784	0.3880
16	$217x^2 - 1024x + 328$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/3x - 1/3$	0	0.1850	0.2122
17	$-1831x^2 + 5x + 217$	$[1, 2, 0, 1]$	$2x$	1	0.4088	0.4145
18	$-2048x^2 + 1029x - 111$	$[0, -1, 1, 1]$	$-x^2 + 1/2x - 1/2$	0	0.2284	0.2868
19	$-2053x^2 - 1932x + 913$	$[1, 1, 1, 1]$	$1 - x$	1	0.1502	0.3129
20	$-5x^2 - 2961x + 1024$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/3x - 1/3$	0	0.1650	0.1848
21	$-2058x^2 - 4893x + 1937$	$[0, -1, 2, 1]$	$-2x^2 + x - 1$	0	0.4025	0.5368
22	$-5922x^2 + 5024x - 1029$	$[1, 3, -1, 1]$	$x$	-1	0.2038	0.3566
23	$-2063x^2 - 7854x + 2961$	$[1, 1, 0, 1]$	$-x$	-1	0.1239	0.1501
24	$-10048x^2 - 10684x + 4893$	$[0, 1, 2, 1]$	$-2x^2 + x - 1$	0	0.2048	0.4289
25	$17771x^2 - 12111x + 2063$	$[1, -3, -1, 1]$	$x^2 - x + 1$	1	0.4385	0.6480
26	$-12111x^2 - 18538x + 7854$	$[1, 1, 0, 1]$	$x - 1/2$	1	0.07366	0.1183
27	$-39930x^2 - 17111x + 10684$	$[1, -1, 1, 1]$	$-2x^2 + x - 1$	1	0.3053	0.3832
28	$-52041x^2 - 35649x + 18538$	$[0, 1, 1, 1]$	$-x^2$	0	0.06194	0.09887
29	$141158x^2 + 719x - 17111$	$[1, 3, -4, 1]$	$2x^2 - x + 1$	-1	0.4071	0.4131
30	$193199x^2 + 36368x - 35649$	$[0, -1, 1, 1]$	$-x^2$	0	0.09110	0.09743
31	$457696x^2 - 156112x - 719$	$[1, 4, 5, 1]$	$-2x^2 + x - 1$	-1	0.4567	0.5099
32	$384960x^2 + 531151x - 229567$	$[1, 6, -2, 1]$	$1 - x$	-1	0.4025	0.6891
33	$578159x^2 + 567519x - 265216$	$[1, 0, 1, 1]$	$-4/3x^2 + 1/3x - 2/3$	-1	0.3389	0.7369
34	$650895x^2 - 119744x - 36368$	$[1, -1, 1, 1]$	$-2/7x^2 + 3/7x + 1/7$	-1	0.1103	0.1144
35	$1374526x^2 - 926751x + 156112$	$[0, -1, 3, 1]$	$-2x^2 + x - 1$	0	0.4396	0.6450
36	$1614014x^2 + 978926x - 531151$	$[1, 1, 1, 1]$	$1 - x$	-1	0.3966	0.5854
37	$239488x^2 + 1905677x - 687263$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/3x - 1/3$	0	0.2920	0.3346
38	$2025421x^2 - 1046495x + 119744$	$[1, 1, 0, 1]$	$x$	-1	0.1140	0.1448
39	$3811354x^2 - 3998667x + 926751$	$[0, -1, 2, 1]$	$-2x^2 + x - 1$	0	0.3970	0.7789
40	$2092990x^2 + 4790280x - 1905677$	$[1, 2, 0, 1]$	$-x$	-1	0.1969	0.2657

41	$5836775x^2 - 5045162x + 1046495$	[1, 1, 0, 1]	$x$	-1	0.1010	0.1798
42	$10090324x^2 + 10372173x - 4790280$	[1, 3, 0, 1]	$-2x + 1$	-1	0.09851	0.2127
43	$-15417335x^2 + 19925766x - 5045162$	[1, -3, 0, 1]	$-x$	-1	0.1257	0.2089
44	$-24434197x^2 - 36161681x + 15417335$	[1, -3, 0, 1]	$-2x$	-1	0.2861	0.4687
45	$-39851532x^2 - 16235915x + 10372173$	[0, 1, 1, 1]	$-x^2 + 1/2x - 1/2$	0	0.1552	0.1914
46	$-36161681x^2 + 70149471x - 19925766$	[1, 3, 0, 1]	$x$	1	0.1662	0.2238
47	$-104137261x^2 - 68633511x + 36161681$	[1, 2, 0, 1]	$-2x$	1	0.2532	0.3937
48	$-140298942x^2 + 1515960x + 16235915$	[0, 1, 1, 1]	$-x^2 + 1/2x - 1/2$	0	0.2052	0.2080
49	$-71665431x^2 - 225168368x + 86385386$	[1, -2, 1, 1]	$1 - x$	-1	0.3459	0.4319
50	$68633511x^2 - 226684328x + 70149471$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x - 1/3$	0	0.1852	0.2199
51	$-384735145x^2 - 65601591x + 68633511$	[1, 2, 0, 1]	$2x$	-1	0.3687	0.3912
52	$-453368656x^2 + 161082737x - 1515960$	[0, -1, 1, 1]	$-x^2 + 1/2x - 1/2$	0	0.2287	0.2576
53	$-387767065x^2 - 517454287x + 225168368$	[1, 1, 1, 1]	$1 - x$	-1	0.1950	0.3413
54	$65601591x^2 - 678537024x + 226684328$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x - 1/3$	0	0.1771	0.1985
55	$-322165474x^2 - 1195991311x + 451852696$	[0, -1, 2, 1]	$-2x^2 + x - 1$	0	0.4914	0.5972
56	$-1291472457x^2 + 256563883x + 65601591$	[1, 2, 0, 1]	$-x^2 + x - 1$	1	0.4434	0.4620
57	$1357074048x^2 - 935100907x + 161082737$	[1, 0, -1, 1]	$x^2 - 1/2x + 1/2$	1	0.2187	0.3256
58	$-1613637931x^2 - 939427428x + 517454287$	[1, 1, 0, 1]	$x - 1$	1	0.2023	0.2917
59	$-256563883x^2 - 1874528335x + 678537024$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x - 1/3$	0	0.1442	0.1658
60	$-1870201814x^2 - 2813955763x + 1195991311$	[0, 1, 2, 1]	$-2x^2 + x - 1$	0	0.2903	0.4709
61	$-3749056670x^2 + 4001294032x - 935100907$	[1, -3, -1, 1]	$x$	1	0.2029	0.3920
62	$-2126765697x^2 - 4688484098x + 1874528335$	[1, 1, 0, 1]	$-x$	1	0.09626	0.1315
63	$-8002588064x^2 - 5375674164x + 2813955763$	[0, 1, 2, 1]	$-2x^2 + x - 1$	0	0.2505	0.3945
64	$-10129353761x^2 - 10064158262x + 4688484098$	[0, 1, 3, 1]	$-x^2$	0	0.04795	0.1055
65	$29635675718x^2 + 5310478665x - 5375674164$	[1, -5, -6, 1]	$2x^2 - x + 1$	1	0.3666	0.3905
66	$39765029479x^2 + 15374636927x - 10064158262$	[0, -1, 1, 1]	$-x^2$	0	0.07885	0.09569
67	$99658375482x^2 - 19079913887x - 5310478665$	[1, 4, 5, 1]	$-2x^2 + x - 1$	1	0.4424	0.4599
68	$68909101628x^2 + 135718128001x - 55139666406$	[1, 6, -2, 1]	$1 - x$	1	0.5369	0.7639
69	$139423404961x^2 - 3705276960x - 15374636927$	[1, 1, 0, 1]	$-2/3x^2 + 2/3x - 1/3$	1	0.1034	0.1048
70	$309596083776x^2 - 162208595808x + 19079913887$	[1, -1, 2, 1]	$-2x^2 + x - 1$	1	0.4556	0.5824
71	$317006637696x^2 + 283105615969x - 135718128001$	[1, 4, -1, 1]	$1 - x$	1	0.3126	0.6192
72	$7410553920x^2 + 445314211777x - 154798041888$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x - 1/3$	0	0.3258	0.3653
73	$449019488737x^2 - 165913872768x + 3705276960$	[1, 1, 0, 1]	$x$	1	0.1145	0.1301
74	$890628423554x^2 - 777141957313x + 162208595808$	[0, -1, 2, 1]	$-2x^2 + x - 1$	0	0.4023	0.7220
75	$331827745536x^2 + 1173734039523x - 445314211777$	[1, 2, 0, 1]	$-x$	1	0.2415	0.2956
76	$1339647912291x^2 - 943055830081x + 165913872768$	[1, 1, 0, 1]	$x$	1	0.1087	0.1643
77	$1886111660162x^2 + 2744060161256x - 1173734039523$	[1, 3, 0, 1]	$-2x + 1$	1	0.1409	0.2332
78	$-3687115991337x^2 + 4002901529766x - 943055830081$	[1, -3, 0, 1]	$-x$	1	0.1036	0.1973
79	$-8005803059532x^2 - 5172334784083x + 2744060161256$	[1, -3, 1, 1]	$-2x + 1$	1	0.1280	0.1964
80	$-9175236313849x^2 + 14752764750554x - 4002901529766$	[1, 3, 0, 1]	$x$	1	0.1502	0.2193

Number:  $\xi = .8612\dots$  Equation:  $2x^3 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2/3x^2 + 1/3$	0	0.1195	0.2390
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-2/3x^2 + 1/3$	-1	0.07704	0.1156
3	$5x^2 - 2x - 2$	[1, 6, -2, 1]	$-2x + 1$	-1	0.3478	0.4591
4	$6x^2 - 4x - 1$	[0, 1, 1, 1]	$-4/7x^2 - 2/7x + 2/7$	0	0.1924	0.2833
5	$-4x^2 - 7x + 9$	[1, 5, -2, 1]	$x$	1	0.3729	0.6721
6	$-10x^2 - 3x + 10$	[0, -1, 1, 1]	$-2/3x^2 + 1/3$	0	0.07418	0.1550
7	$3x^2 - 20x + 15$	[1, 1, 2, 1]	$-x$	1	0.2555	0.4050
8	$-7x^2 - 23x + 25$	[0, 1, 1, 1]	$-2/3x^2 + 1/3$	0	0.06434	0.1238
9	$-39x^2 + 87x - 46$	[1, 2, -5, 1]	$2x - 1$	-1	0.5629	0.8334
10	$-71x^2 - 48x + 94$	[1, 5, 1, 1]	$2/7x^2 - 6/7x - 1/7$	-1	0.4397	0.8052
11	$-110x^2 + 39x + 48$	[0, 1, 1, 1]	$-2/3x^2$	0	0.2977	0.3919
12	$142x^2 - 149x + 23$	[1, -2, -1, 1]	$2/3x^2 - 1/3$	1	0.08803	0.1701
13	$-149x^2 - 119x + 213$	[1, 2, 1, 1]	$x$	1	0.1549	0.2791
14	$-291x^2 + 30x + 190$	[0, -1, 1, 1]	$-2/3x^2 + 1/3$	0	0.04660	0.06696
15	$351x^2 + 932x - 1063$	[1, -2, -5, 1]	$2x - 1$	1	0.4492	0.8435
16	$642x^2 + 902x - 1253$	[0, -1, 1, 1]	$-4/7x^2 - 2/7x + 2/7$	0	0.2398	0.4270
17	$-1895x^2 + 61x + 1353$	[1, 6, 0, 1]	$x^2$	1	0.4068	0.6146
18	$-2537x^2 - 841x + 2606$	[0, -1, 1, 1]	$-4/9x^2 - 2/3x + 5/9$	0	0.2679	0.5497
19	$-2797x^2 + 1956x + 390$	[1, 1, 2, 1]	$-2/7x^2 + 2/7x + 3/7$	1	0.1428	0.2154
20	$-3057x^2 + 4753x - 1826$	[0, -1, 2, 1]	$-2/3x^2 + 1/3$	0	0.06645	0.1037
21	$-12563x^2 + 2291x + 7345$	[1, 2, 2, 1]	$-2x + 1$	1	0.3354	0.4612
22	$-15620x^2 + 7044x + 5519$	[0, 1, 1, 1]	$-4/7x^2 - 2/7x + 2/7$	0	0.1992	0.2646
23	$7044x^2 + 21139x - 23430$	[1, 5, -2, 1]	$x$	-1	0.3860	0.7350
24	$22664x^2 + 14095x - 28949$	[0, -1, 1, 1]	$-2/3x^2 + 1/3$	0	0.09494	0.1756
25	$-14095x^2 + 51613x - 33996$	[1, 1, 2, 1]	$-x$	-1	0.2599	0.3921
26	$8569x^2 + 65708x - 62945$	[0, 1, 1, 1]	$-2/3x^2 + 1/3$	0	0.06788	0.1313
27	$122847x^2 - 208736x + 88652$	[1, 2, -5, 1]	$2x - 1$	1	0.4949	0.7556
28	$151597x^2 + 171417x - 260069$	[1, 5, 1, 1]	$2/7x^2 - 6/7x - 1/7$	1	0.5141	0.9121
29	$-274444x^2 + 37319x + 171417$	[0, -1, -1, 1]	$2/3x^2$	0	0.2831	0.3987
30	$-388722x^2 + 311763x + 19820$	[1, -2, -1, 1]	$-2/3x^2 + 1/3$	1	0.09151	0.1506
31	$311763x^2 + 408542x - 583083$	[1, -2, 1, 1]	$x$	1	0.1773	0.3151
32	$700485x^2 + 96779x - 602903$	[0, -1, 1, 1]	$-2/3x^2 + 1/3$	0	0.04124	0.07257
33	$506927x^2 + 2703555x - 2704358$	[1, 2, 5, 1]	$-2x + 1$	1	0.4440	0.9034
34	$1207412x^2 + 2800334x - 3307261$	[0, 1, 1, 1]	$-4/7x^2 - 2/7x + 2/7$	0	0.2551	0.4721
35	$4514673x^2 + 989216x - 4200501$	[1, 6, 0, 1]	$-x^2$	-1	0.3526	0.6748
36	$-7315007x^2 + 3525457x + 2389383$	[1, 1, -2, 1]	$2/3x^2 - 1/3$	-1	0.1492	0.1997
37	$-8907929x^2 + 10840464x - 2728996$	[1, 1, 2, 1]	$-2/3x^2 + 1/3$	-1	0.05279	0.09178
38	$30588857x^2 + 1517402x - 23994791$	[1, -6, 2, 1]	$2x - 1$	-1	0.3037	0.4913
39	$39496786x^2 - 9323062x - 21265795$	[0, -1, 1, 1]	$-4/7x^2 - 2/7x + 2/7$	0	0.1945	0.2617
40	$9323062x^2 + 60762581x - 59245179$	[1, 5, 2, 1]	$-x$	-1	0.3965	0.7827

41	$60762581x^2 - 68568241x + 13984593$	$[1, 1, -1, 1]$	$x$	-1	0.4348	0.79
42	$48819848x^2 + 51439519x - 80510974$	$[1, 1, 0, 1]$	$2/9x^2 - 2/3x + 2/9$	-1	0.1122	0.19
43	$-51439519x^2 + 129330822x - 73229772$	$[1, -1, 0, 1]$	$-x$	-1	0.2493	0.36
44	$-2619671x^2 + 180770341x - 153740746$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.07847	0.13
45	$364160353x^2 - 483012491x + 145881733$	$[1, 2, -4, 1]$	$2x - 1$	1	0.4047	0.67
46	$663782832x^2 + 67157545x - 550170036$	$[1, 5, 2, 1]$	$2/7x^2 - 6/7x + 6/7$	1	0.2529	0.42
47	$-1030562856x^2 + 596625287x + 250547557$	$[1, -1, -1, 1]$	$2/3x^2 - 1/3$	1	0.09823	0.13
48	$-596625287x^2 - 1281110413x + 1545844284$	$[1, -3, -1, 1]$	$-x$	1	0.1903	0.34
49	$-1627188143x^2 - 684485126x + 1796391841$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.04142	0.08
50	$-258217891x^2 - 7531645094x + 6677956270$	$[1, -2, 5, 1]$	$-2x + 1$	-1	0.5260	0.94
51	$-1885406034x^2 - 8216130220x + 8474348111$	$[0, 1, 1, 1]$	$-4/7x^2 - 2/7x + 2/7$	0	0.2558	0.50
52	$-8216130220x^2 + 10359754145x - 2828109051$	$[1, 5, -2, 1]$	$x$	1	0.3293	0.56
53	$-10359754145x^2 - 5388021169x + 12324195330$	$[1, 1, 1, 1]$	$-x$	1	0.4013	0.76
54	$-18575884365x^2 + 4971732976x + 9496086279$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.1469	0.19
55	$24906608551x^2 - 23547617341x + 1806370883$	$[1, -2, -1, 1]$	$2/3x^2 - 1/3$	-1	0.04256	0.08
56	$-72001843233x^2 - 22652857995x + 72913454770$	$[1, 6, 2, 1]$	$2x - 1$	-1	0.2635	0.54
57	$-96908451784x^2 + 894759346x + 71107083887$	$[0, -1, 1, 1]$	$-4/7x^2 - 2/7x + 2/7$	0	0.1788	0.27
58	$-168015535671x^2 + 146257437022x - 1342139019$	$[1, -6, 0, 1]$	$-x^2$	-1	0.3987	0.70
59	$-97803211130x^2 - 167120776325x + 216469761563$	$[1, 2, -1, 1]$	$2/9x^2 - 2/3x + 2/9$	-1	0.1238	0.22
60	$-167120776325x^2 + 314272972693x - 146704816695$	$[1, 1, -1, 1]$	$x$	-1	0.2248	0.33
61	$-69317565195x^2 + 481393749018x - 363174578258$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.08499	0.13
62	$-1032105063231x^2 + 1069107775144x - 155221882673$	$[1, 2, 4, 1]$	$-2x + 1$	-1	0.3028	0.59
63	$-1101422628426x^2 + 1550501524162x - 518396460931$	$[0, 1, 1, 1]$	$-4/7x^2 - 2/7x + 2/7$	0	0.2447	0.39
64	$1550501524162x^2 + 583026167495x - 1652133942639$	$[1, 5, -2, 1]$	$x$	1	0.2393	0.47
65	$2651924152588x^2 - 967475356667x - 1133737481708$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.09934	0.13
66	$967475356667x^2 + 3785661634296x - 3977886228882$	$[1, 1, 2, 1]$	$-x$	1	0.1925	0.37
67	$3619399509255x^2 + 2818186277629x - 5111623710590$	$[0, 1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.05122	0.09
68	$2016973046003x^2 - 20280232717319x + 15969822238355$	$[1, 2, -5, 1]$	$2x - 1$	-1	0.5825	0.94
69	$21081445948945x^2 - 2403639694878x - 13566182543477$	$[1, 5, 1, 1]$	$2/7x^2 - 6/7x - 1/7$	-1	0.4212	0.60
70	$23098418994948x^2 - 22683872412197x + 2403639694878$	$[0, 1, 1, 1]$	$-2/3x^2$	0	0.2500	0.49
71	$22683872412197x^2 + 20694779300070x - 34647628492422$	$[1, -1, 1, 1]$	$-x$	1	0.4844	0.86
72	$-45782291407145x^2 + 1989093112127x + 32243988797544$	$[0, -1, -1, 1]$	$2/3x^2 - 1/3$	0	0.1363	0.20
73	$67278283938841x^2 - 47771384519272x - 8758903153721$	$[1, 2, 0, 1]$	$2/3x^2 - 1/3$	1	0.04743	0.07
74	$162821052977385x^2 + 104302989665852x - 210593754970244$	$[1, -6, -2, 1]$	$-2x + 1$	1	0.3357	0.61
75	$230099336916226x^2 + 56531605146580x - 219352658123965$	$[0, 1, 1, 1]$	$-4/7x^2 - 2/7x + 2/7$	0	0.1540	0.30
76	$-449451995040191x^2 + 288617400227759x + 84797407719870$	$[1, -6, 0, 1]$	$x^2$	-1	0.4357	0.63
77	$173567731769646x^2 + 505983600186771x - 564501663498304$	$[1, 2, 1, 1]$	$-2/9x^2 + 2/3x - 2/9$	-1	0.1286	0.24
78	$505983600186771x^2 - 738069395267950x + 260351597654469$	$[1, -1, -1, 1]$	$x$	-1	0.1893	0.30
79	$332415868417125x^2 - 1244052995454721x + 824853261152773$	$[0, -1, 1, 1]$	$-2/3x^2 + 1/3$	0	0.08668	0.13
80	$-2820521859326567x^2 + 2228927780926017x + 172394344098602$	$[1, -2, -4, 1]$	$2x - 1$	-1	0.3219	0.52

Number:  $\xi = .5536\dots$  Equation:  $2x^3 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1/2 x^2 + x - 1/4$	-1	0.1400	0.4199
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-4/5 x^2 + 2/5 x - 2/5$	-1	0.2373	0.2966
3	$3x^2 + 2x - 2$	$[1, -2, 0, 1]$	$x - 1$	-1	0.2383	0.4501
4	$-4x^2 + 4x - 1$	$[1, 3, 1, 1]$	$1/3 x^2 - 2/3 x - 1/6$	-1	0.1837	0.3789
5	$4x^2 + 5x - 4$	$[1, 2, 0, 1]$	$x$	-1	0.1589	0.3623
6	$-8x^2 - x + 3$	$[0, 1, -1, 1]$	$x^2 + 1/2$	0	0.3280	0.3793
7	$-5x^2 + 10x - 4$	$[1, 2, 0, 1]$	$-2/3 x^2 + 1/3 x - 2/3$	1	0.3518	0.4961
8	$12x^2 + 6x - 7$	$[1, -1, 0, 1]$	$-1/2 x^2 + x - 3/4$	1	0.1771	0.2817
9	$19x^2 + 22x - 18$	$[0, 1, 2, 1]$	$-x^2 - x$	0	0.5120	1.237
10	$-25x^2 + 3x + 6$	$[1, 1, -1, 1]$	$2/7 x^2 - 2/7 x - 2/7$	-1	0.2356	0.2526
11	$31x^2 + 28x - 25$	$[1, 1, 0, 1]$	$1/2 x^2 + x - 1/4$	-1	0.1655	0.4081
12	$-56x^2 + 31x$	$[1, 3, 0, 1]$	$4/5 x^2 - 2/5 x + 2/5$	-1	0.2288	0.2989
13	$-31x^2 - 84x + 56$	$[1, -2, -1, 1]$	$-x$	-1	0.2850	0.4505
14	$-87x^2 - 53x + 56$	$[0, 1, 1, 1]$	$-x^2 - 1/2$	0	0.2465	0.4402
15	$112x^2 - 118x + 31$	$[1, -2, 1, 1]$	$1/3 x^2 - 2/3 x - 1/6$	1	0.1966	0.3874
16	$-118x^2 - 137x + 112$	$[1, 1, 0, 1]$	$x$	1	0.1467	0.3537
17	$-230x^2 - 19x + 81$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.3335	0.3772
18	$137x^2 - 289x + 118$	$[1, 2, 0, 1]$	$2/3 x^2 - 1/3 x + 2/3$	1	0.3615	0.5029
19	$-348x^2 - 156x + 193$	$[1, 1, 0, 1]$	$-1/2 x^2 + x - 3/4$	1	0.1833	0.2764
20	$-559x^2 - 601x + 504$	$[0, 1, 2, 1]$	$-x^2 - x$	0	0.4701	1.207
21	$-715x^2 + 114x + 156$	$[1, -1, 1, 1]$	$-2/7 x^2 + 2/7 x + 2/7$	-1	0.2371	0.2544
22	$-871x^2 + 829x - 192$	$[0, -1, 2, 1]$	$-x^2 - 1/2$	0	0.2837	0.5545
23	$-907x^2 - 757x + 697$	$[1, 1, 0, 1]$	$1/3 x^2 - 2/3 x + 5/6$	-1	0.1743	0.3985
24	$-1586x^2 + 943x - 36$	$[1, 1, 0, 1]$	$-4/5 x^2 + 2/5 x - 2/5$	-1	0.2258	0.3057
25	$943x^2 + 2343x - 1586$	$[1, -2, 0, 1]$	$x$	-1	0.2728	0.4419
26	$2529x^2 + 1400x - 1550$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2563	0.4311
27	$-3136x^2 + 3472x - 961$	$[1, 2, 1, 1]$	$1/3 x^2 - 2/3 x - 1/6$	-1	0.2094	0.3963
28	$3472x^2 + 3743x - 3136$	$[1, 1, 0, 1]$	$x$	-1	0.1347	0.3452
29	$6608x^2 + 271x - 2175$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.3386	0.3759
30	$-3743x^2 + 8344x - 3472$	$[1, 2, 0, 1]$	$2/3 x^2 - 1/3 x + 2/3$	-1	0.3706	0.5094
31	$10080x^2 + 4014x - 5311$	$[1, 1, 0, 1]$	$-1/2 x^2 + x - 3/4$	-1	0.1891	0.2716
32	$-16417x^2 - 16372x + 14094$	$[0, -1, -2, 1]$	$x^2 + x$	0	0.4315	1.179
33	$20431x^2 - 4059x - 4014$	$[1, -1, 1, 1]$	$2/7 x^2 - 2/7 x - 2/7$	-1	0.2381	0.2567
34	$24445x^2 - 24490x + 6066$	$[0, 1, 2, 1]$	$-x^2 - 1/2$	0	0.2759	0.5677
35	$26497x^2 + 20386x - 19405$	$[1, -1, 0, 1]$	$1/3 x^2 - 2/3 x + 5/6$	1	0.1829	0.3893
36	$44876x^2 - 28549x + 2052$	$[1, 1, 0, 1]$	$-4/5 x^2 + 2/5 x - 2/5$	1	0.2223	0.3128
37	$-28549x^2 - 65262x + 44876$	$[1, -2, 0, 1]$	$x$	1	0.2603	0.4332
38	$-73425x^2 - 36713x + 42824$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2657	0.4226
39	$87700x^2 - 101974x + 29575$	$[1, 2, 1, 1]$	$1/3 x^2 - 2/3 x - 1/6$	1	0.2222	0.4053
40	$-101974x^2 - 101975x + 87700$	$[1, 1, 0, 1]$	$x$	1	0.1230	0.3370

41	$-189674x^2 - x + 58125$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.3432	0.3754
42	$101975x^2 - 240661x + 101974$	$[1, 2, 0, 1]$	$2/3x^2 - 1/3x + 2/3$	1	0.3793	0.5155
43	$-291648x^2 - 101976x + 145825$	$[1, 1, 0, 1]$	$-1/2x^2 + x - 3/4$	1	0.1948	0.2673
44	$-481321x^2 - 444613x + 393624$	$[0, 1, 2, 1]$	$-x^2 - x$	0	0.4562	1.151
45	$-583297x^2 + 138684x + 101976$	$[1, -1, 1, 1]$	$-2/7x^2 + 2/7x + 2/7$	-1	0.2387	0.2595
46	$-685273x^2 + 721981x - 189672$	$[0, -1, 2, 1]$	$-x^2 - 1/2$	0	0.2950	0.5810
47	$-772969x^2 - 546589x + 539449$	$[1, 1, 0, 1]$	$1/3x^2 - 2/3x + 5/6$	-1	0.1915	0.3805
48	$-1268570x^2 + 860665x - 87696$	$[1, 1, 0, 1]$	$-4/5x^2 + 2/5x - 2/5$	-1	0.2186	0.3202
49	$860665x^2 + 1815159x - 1268570$	$[1, -2, 0, 1]$	$x$	-1	0.2477	0.4244
50	$2129235x^2 + 954494x - 1180874$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2749	0.4147
51	$2989900x^2 + 2769653x - 2449444$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.1301	0.3290
52	$-5439344x^2 + 220247x + 1544931$	$[1, 3, -1, 1]$	$x^2 + 1/2$	1	0.3472	0.3758
53	$-2769653x^2 + 6934294x - 2989900$	$[1, 2, 2, 1]$	$-2/3x^2 + 1/3x - 2/3$	1	0.3874	0.5212
54	$-8208997x^2 + 7154541x - 1444969$	$[0, 1, 1, 1]$	$-1/2x^2 - x + 1/4$	0	0.2480	0.4440
55	$8429244x^2 + 2549406x - 3994375$	$[1, -1, 0, 1]$	$2/5x^2 + 4/5x + 1/5$	-1	0.2001	0.2634
56	$14088835x^2 + 12033106x - 10978650$	$[1, 0, 2, 1]$	$-x^2 - x$	-1	0.4808	1.124
57	$-16638241x^2 + 4605135x + 2549406$	$[1, -1, 0, 1]$	$2/7x^2 - 2/7x - 2/7$	-1	0.2389	0.2629
58	$-19187647x^2 + 21243376x - 5879838$	$[0, 1, 2, 1]$	$-x^2 - 1/2$	0	0.3141	0.5945
59	$22518079x^2 + 14582512x - 14973025$	$[1, 1, 0, 1]$	$-1/3x^2 + 2/3x - 5/6$	1	0.1999	0.3722
60	$-35825888x^2 + 25848511x - 3330432$	$[1, 1, 0, 1]$	$4/5x^2 - 2/5x + 2/5$	1	0.2144	0.3279
61	$25848511x^2 + 50408400x - 35825888$	$[1, 2, 0, 1]$	$x$	1	0.2350	0.4155
62	$61674399x^2 + 24559889x - 32495456$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2837	0.4074
63	$87522910x^2 + 74968289x - 68321344$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.1371	0.3213
64	$155844254x^2 - 12554621x - 40807617$	$[1, -3, 1, 1]$	$-x^2 - 1/2$	-1	0.3506	0.3769
65	$-74968289x^2 + 199605709x - 87522910$	$[1, 2, -2, 1]$	$2/3x^2 - 1/3x + 2/3$	-1	0.3948	0.5264
66	$230812543x^2 - 212160330x + 46715293$	$[0, 1, -1, 1]$	$1/2x^2 + x - 1/4$	0	0.2412	0.4548
67	$243367164x^2 + 62413668x - 109128961$	$[1, 1, 0, 1]$	$-2/5x^2 - 4/5x - 1/5$	1	0.2052	0.2600
68	$411766039x^2 + 324433045x - 305780832$	$[1, 0, 2, 1]$	$-x^2 - x$	1	0.5052	1.097
69	$474179707x^2 - 149746662x - 62413668$	$[1, 1, 0, 1]$	$-2/7x^2 + 2/7x + 2/7$	1	0.2387	0.2667
70	$536593375x^2 - 623926369x + 180953496$	$[0, -1, 2, 1]$	$-x^2 - 1/2$	0	0.3333	0.6079
71	$655133203x^2 + 386846713x - 414909793$	$[1, 1, 0, 1]$	$1/3x^2 - 2/3x + 5/6$	1	0.2082	0.3642
72	$1010773082x^2 - 773673031x + 118539828$	$[1, 1, 0, 1]$	$-4/5x^2 + 2/5x - 2/5$	1	0.2100	0.3359
73	$-773673031x^2 - 1397619795x + 1010773082$	$[1, -2, 0, 1]$	$x$	1	0.2222	0.4066
74	$-1784446113x^2 - 623946764x + 892233254$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2921	0.4009
75	$-2558119144x^2 - 2021566559x + 1903006336$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.1441	0.3138
76	$4461125480x^2 - 536552585x - 1070063391$	$[1, 3, -1, 1]$	$x^2 + 1/2$	-1	0.3534	0.3789
77	$2021566559x^2 - 5740185052x + 2558119144$	$[1, 2, 2, 1]$	$-2/3x^2 + 1/3x - 2/3$	-1	0.4017	0.5312
78	$6482692039x^2 - 6276737637x + 1488055753$	$[0, 1, 1, 1]$	$-1/2x^2 - x + 1/4$	0	0.2340	0.4657
79	$-7019244624x^2 - 1485013974x + 2973069727$	$[1, -1, 0, 1]$	$2/5x^2 + 4/5x + 1/5$	1	0.2100	0.2571
80	$-12016922689x^2 - 8710213000x + 8504258598$	$[1, 0, 2, 1]$	$-x^2 - x$	1	0.5293	1.073

Number:  $\xi = .3129\dots$  Equation:  $2x^3 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$3x^2 - x$	$[0, -1, 3, 1]$	$-2x^2$	0	0.1726	0.1917
2	$-4x^2 - 2x + 1$	$[1, -2, -4, 1]$	$x^2 + x + 1/2$	-1	0.2794	0.3667
3	$-7x^2 - x + 1$	$[0, -1, 1, 1]$	$-x^2$	0	0.08378	0.08720
4	$-21x^2 - 19x + 8$	$[2, 3, 8, 1]$	$-2x^2 - 2x$	-2	0.6196	1.217
5	$-23x^2 + 4x + 1$	$[1, 9, -1, 2]$	$-1/3x^2 + 1/3x + 1/6$	-1	0.1771	0.1828
6	$-28x^2 - 20x + 9$	$[1, 1, 0, 1]$	$-x^2 - x - 1/2$	-1	0.2391	0.3858
7	$-51x^2 - 16x + 10$	$[0, 1, 1, 1]$	$-x^2$	0	0.07767	0.08830
8	$-141x^2 - 170x + 67$	$[2, -3, 6, 1]$	$-2x^2 - 2x$	2	0.7091	1.307
9	$-173x^2 + 3x + 16$	$[1, 9, -1, 2]$	$-1/3x^2 + 1/3x + 1/6$	1	0.1750	0.1766
10	$-192x^2 - 186x + 77$	$[1, 1, 0, 1]$	$-x^2 - x - 1/2$	1	0.1963	0.4122
11	$-365x^2 - 183x + 93$	$[0, 1, 1, 1]$	$-x^2$	0	0.06947	0.09145
12	$1281x^2 + 184x - 183$	$[1, -6, -2, 1]$	$2x^2$	-1	0.1676	0.1744
13	$-1280x^2 - 1648x + 641$	$[1, 10, 2, 1]$	$x^2 + x + 1/2$	-1	0.2526	0.4432
14	$-2561x^2 - 1832x + 824$	$[0, -1, 1, 1]$	$-x^2$	0	0.05973	0.09648
15	$-9331x^2 - 2935x + 1832$	$[1, -6, 1, 1]$	$-2x^2$	-1	0.1553	0.1766
16	$-8228x^2 - 14098x + 5217$	$[1, 10, -2, 1]$	$-x^2 - x - 1/2$	-1	0.3228	0.4770
17	$-17559x^2 - 17033x + 7049$	$[0, 1, 1, 1]$	$-x^2$	0	0.04903	0.1031
18	$-66775x^2 - 33540x + 17033$	$[1, 6, 1, 1]$	$-2x^2$	1	0.1389	0.1829
19	$117348x^2 - 117043x + 25134$	$[2, 19, -7, 1]$	$x^2 - x + 1/2$	2	0.1222	0.2494
20	$-117043x^2 - 150888x + 58674$	$[1, 5, 1, 2]$	$x$	1	0.06323	0.1108
21	$-468477x^2 - 335621x + 150888$	$[0, -1, 3, 1]$	$-2x^2$	0	0.1194	0.1930
22	$-954986x^2 + 752221x - 141872$	$[2, -7, 0, 1]$	$-x^2 + x - 1/2$	2	0.1414	0.2322
23	$-752221x^2 - 1290607x + 477493$	$[1, 5, -1, 2]$	$-x$	1	0.08079	0.1193
24	$-3211649x^2 - 3119600x + 1290607$	$[0, 1, 3, 1]$	$-2x^2$	0	0.09797	0.2062
25	$-7621856x^2 + 4594305x - 691328$	$[2, 7, 0, 1]$	$-x^2 + x - 1/2$	-2	0.1573	0.2157
26	$-4594305x^2 - 10741456x + 3810928$	$[1, 5, -1, 2]$	$-x$	-1	0.09773	0.1279
27	$-21482912x^2 + 21404771x - 4594305$	$[1, 3, -1, 1]$	$2x$	-1	0.2446	0.4987
28	$-21404771x^2 - 27630063x + 10741456$	$[1, 3, 0, 1]$	$-x$	-1	0.1266	0.2218
29	$59776290x^2 - 25920935x + 2258082$	$[1, -2, -1, 1]$	$x^2 - x + 1/2$	-1	0.1689	0.2009
30	$-85697225x^2 - 61485418x + 27630063$	$[1, 3, 0, 1]$	$x - 1$	-1	0.2385	0.3861
31	$-25920935x^2 - 87406353x + 29888145$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x - 1/4$	0	0.1130	0.1362
32	$-174812706x^2 + 137539095x - 25920935$	$[1, -4, -1, 1]$	$2x$	1	0.2829	0.4642
33	$-148891771x^2 + 224945448x - 55809080$	$[0, -1, 1, 1]$	$-x^2 - 1/2$	0	0.2801	0.4200
34	$-137539095x^2 - 236298124x + 87406353$	$[1, 2, 0, 1]$	$2/3x^2 - 2/3x + 2/3$	1	0.1617	0.2387
35	$-461243572x^2 + 126186419x + 5676338$	$[1, 1, 1, 1]$	$-x^2 + x - 1/2$	1	0.1756	0.1888
36	$587429991x^2 + 571355277x - 236298124$	$[1, -2, -1, 1]$	$x - 1$	1	0.1957	0.4126
37	$126186419x^2 + 697541696x - 230621786$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x - 1/4$	0	0.1257	0.1435
38	$-1395083392x^2 + 839802829x - 126186419$	$[1, 4, 1, 1]$	$-2x$	-1	0.3146	0.4312
39	$-1268896973x^2 + 1537344525x - 356808205$	$[0, 1, 1, 1]$	$-x^2 - 1/2$	0	0.2284	0.3964
40	$839802829x^2 + 1966438669x - 697541696$	$[1, 2, 0, 1]$	$-2/3x^2 + 2/3x - 2/3$	1	0.1956	0.2559



41	$-3503783194x^2 + 410708685x + 214547072$	[1, 1, -1, 1]	$x^2 - x + 1/2$	1	0.1770	0
42	$3914491879x^2 + 5059513178x - 1966438669$	[1, 2, -1, 1]	$x - 1$	1	0.2536	0
43	$410708685x^2 + 5470221863x - 1751891597$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x - 1/4$	0	0.1350	0
44	$10529735041x^2 - 10206131112x + 2162600282$	[1, -5, -2, 1]	$2x - 1$	-1	0.1872	0
45	$4735909249x^2 + 15999956904x - 5470221863$	[1, 2, 0, 1]	$2/3x^2 - 2/3x + 2/3$	-1	0.2261	0
46	$26206088016x^2 + 1057916543x - 2896912896$	[1, 2, 1, 1]	$-x^2 + x - 1/2$	-1	0.1729	0
47	$1057916543x^2 - 42206044920x + 13103044008$	[1, -2, 0, 1]	$x$	-1	0.1403	0
48	$84412089840x^2 - 23032338387x - 1057916543$	[1, 3, 1, 1]	$-2x$	-1	0.3513	0
49	$85470006383x^2 - 65238383307x + 12045127465$	[0, 1, 1, 1]	$-x^2 - 1/2$	0	0.2153	0
50	$23032338387x^2 + 127676051303x - 42206044920$	[1, -3, 0, 1]	$2/3x^2 - 2/3x + 2/3$	1	0.2515	0
51	$192914434610x^2 + 39405329609x - 31218833998$	[1, 1, 1, 1]	$-x^2 + x - 1/2$	1	0.1636	0
52	$39405329609x^2 - 320590485913x + 96457217305$	[1, -2, 0, 1]	$x$	1	0.1414	0
53	$641180971826x^2 - 74698445783x - 39405329609$	[1, 3, 1, 1]	$-2x$	1	0.3540	0
54	$680586301435x^2 - 395288931696x + 57051887696$	[0, 1, 1, 1]	$-x^2 - 1/2$	0	0.2384	0
55	$74698445783x^2 + 1001176787348x - 320590485913$	[1, -3, 0, 1]	$2/3x^2 - 2/3x + 2/3$	-1	0.2700	0
56	$1396465719044x^2 + 531189409869x - 302943927826$	[1, 1, 1, 1]	$-x^2 + x - 1/2$	-1	0.1497	0
57	$531189409869x^2 - 2397642506392x + 698232859522$	[1, -2, 0, 1]	$x$	-1	0.1381	0
58	$4795285012784x^2 + 197102510563x - 531189409869$	[1, 3, 1, 1]	$-2x$	-1	0.3457	0
59	$5326474422653x^2 - 2200539995829x + 167043449653$	[0, 1, 1, 1]	$-x^2 - 1/2$	0	0.2551	0
60	$-197102510563x^2 + 7724116929045x - 2397642506392$	[1, -3, 0, 1]	$2/3x^2 - 2/3x + 2/3$	1	0.2807	0
61	$9924656924874x^2 + 5720679443779x - 2761788466608$	[1, 1, 1, 1]	$-x^2 + x - 1/2$	1	0.1321	0
62	$5720679443779x^2 - 17648773853919x + 4962328462437$	[1, -2, 0, 1]	$x$	1	0.1307	0
63	$35297547707838x^2 + 7237381406463x - 5720679443779$	[1, 3, 1, 1]	$-2x$	1	0.3271	0
64	$41018227151617x^2 - 10411392447456x - 758350981342$	[0, 1, 1, 1]	$-x^2 - 1/2$	0	0.2641	0
65	$-7237381406463x^2 + 58667001005536x - 17648773853919$	[1, -3, 0, 1]	$2/3x^2 - 2/3x + 2/3$	-1	0.2828	0
66	$69078393452992x^2 + 55492989964543x - 24127804279040$	[1, 1, 1, 1]	$-x^2 + x - 1/2$	-1	0.1117	0
67	$55492989964543x^2 - 127745394458528x + 34539196726496$	[1, -2, 0, 1]	$x$	-1	0.1196	0
68	$255490788917056x^2 + 97400576440637x - 55492989964543$	[1, 3, 1, 1]	$-2x$	-1	0.2993	0
69	$-310983778881599x^2 + 30344818017891x + 20953793238047$	[0, -1, -1, 1]	$x^2 + 1/2$	0	0.2652	0
70	$-97400576440637x^2 + 438729173340127x - 127745394458528$	[1, -3, 0, 1]	$-2/3x^2 + 2/3x - 2/3$	-1	0.2762	0
71	$-408384355322236x^2 + 469073991358018x - 106791601220481$	[0, 1, 1, 1]	$-x^2 - x - 1/2$	0	0.2876	0
72	$469073991358018x^2 + 505784931762873x - 204192177661118$	[1, -1, 1, 1]	$x$	1	0.1046	0
73	$-505784931762873x^2 + 907803164698145x - 234536995679009$	[1, 1, 0, 1]	$-x$	1	0.1055	0
74	$-1815606329396290x^2 - 1048280803930601x + 505784931762873$	[1, -3, 0, 1]	$-2x$	1	0.2640	0
75	$-2321391261159163x^2 - 140477639232456x + 271247936083864$	[0, 1, 1, 1]	$-x^2 - 1/2$	0	0.2580	0
76	$-1048280803930601x^2 + 3229194425857308x - 907803164698145$	[1, 3, 0, 1]	$-2/3x^2 + 2/3x - 2/3$	-1	0.2613	0
77	$-3369672065089764x^2 + 3088716786624852x - 636555228614281$	[0, 1, 1, 1]	$-x^2 - x - 1/2$	0	0.2591	0
78	$-3088716786624852x^2 - 4417952869020365x + 1684836032544882$	[1, 1, -1, 1]	$-x$	1	0.1394	0
79	$-4417952869020365x^2 + 6317911212482160x - 1544358393312426$	[1, 1, 0, 1]	$x$	1	0.08920	0
80	$-12635822424964320x^2 - 10165141820436243x + 4417952869020365$	[1, 3, 0, 1]	$-2x$	1	0.2233	0

Number:  $\xi = .8777\dots$  Equation:  $2x^3 + x^2 + x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.1074	0.2148
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	-1	0.05987	0.08981
3	$6x^2 - 3x - 2$	[1, 7, -2, 1]	$-2x + 1$	-1	0.4070	0.5540
4	$7x^2 - 5x - 1$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.1795	0.2747
5	$-12x^2 - 2x + 11$	[1, 5, -3, 1]	$x - 1/2$	1	0.1992	0.3721
6	$-4x^2 - 17x + 18$	[1, 2, 2, 1]	$-x$	1	0.3933	0.7636
7	$15x^2 - 20x + 6$	[1, -1, 1, 1]	$-x$	1	0.4262	0.7043
8	$-27x^2 + 18x + 5$	[1, 0, -1, 1]	$2/9x^2 + \frac{7}{9}x - 5/9$	1	0.2316	0.3425
9	$-16x^2 - 19x + 29$	[1, 1, 1, 1]	$2/5x^2 - 1/5x + 2/5$	1	0.1423	0.2467
10	$11x^2 - 37x + 24$	[0, -1, 1, 1]	$-x$	0	0.2033	0.3069
11	$-5x^2 - 56x + 53$	[0, -1, 2, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.06493	0.1236
12	$102x^2 - 167x + 68$	[1, -5, 3, 1]	$-2x + 1$	-1	0.4362	0.6712
13	$-218x^2 + 17x + 153$	[1, 5, -2, 1]	$x$	-1	0.6523	0.9776
14	$97x^2 - 223x + 121$	[1, 1, 0, 1]	$1/3x^2 - 1/3x - 1/3$	-1	0.2519	0.3738
15	$320x^2 - 184x - 85$	[1, -1, 0, 1]	$1/2 - x$	-1	0.1959	0.2745
16	$-344x^2 - 245x + 480$	[1, 2, -1, 1]	$x$	-1	0.3869	0.6864
17	$73x^2 - 652x + 516$	[1, 1, 1, 1]	$-x$	-1	0.6265	1.027
18	$664x^2 + 61x - 565$	[1, -1, 0, 1]	$4/9x^2 - 4/9x - 1/9$	-1	0.1032	0.1788
19	$-271x^2 - 897x + 996$	[1, 1, 0, 1]	$x$	-1	0.2038	0.3842
20	$-935x^2 - 958x + 1561$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.06979	0.1211
21	$46x^2 - 5015x + 4366$	[1, 2, 5, 1]	$-2x + 1$	-1	0.5441	0.9565
22	$-5038x^2 + 4343x + 69$	[1, 5, -2, 1]	$x$	-1	0.4819	0.8401
23	$-889x^2 - 5973x + 5927$	[1, 1, 0, 1]	$1/3x^2 - 1/3x - 1/3$	-1	0.2500	0.5018
24	$5084x^2 - 9358x + 4297$	[1, -1, 0, 1]	$1/2 - x$	-1	0.2318	0.3490
25	$-11900x^2 + 1755x + 7626$	[1, 2, -1, 1]	$x$	-1	0.3289	0.4712
26	$-16984x^2 + 11113x + 3329$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.09340	0.1370
27	$-19605x^2 - 11821x + 25476$	[1, 1, 2, 1]	$-x$	-1	0.1844	0.3334
28	$-36589x^2 - 708x + 28805$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.05304	0.08593
29	$71762x^2 + 94907x - 138572$	[1, 2, -6, 1]	$2x - 1$	1	0.5746	0.9982
30	$-108351x^2 - 95615x + 167377$	[0, 1, -1, 1]	$1/2x^2 + 1/2x - 1/2$	0	0.2716	0.4740
31	$-262992x^2 + 252583x - 19104$	[2, 12, 3, 1]	$-x^2 + 1/2x$	-2	0.2222	0.4284
32	$384079x^2 + 112392x - 394488$	[1, -4, -1, 2]	$x$	-1	0.4388	0.8904
33	$-250256x^2 + 521943x - 265319$	[1, 2, 1, 1]	$4/9x^2 - 4/9x - 1/9$	-1	0.1220	0.1816
34	$-647071x^2 + 140191x + 375384$	[1, -1, 0, 1]	$-x$	-1	0.1646	0.2277
35	$-897327x^2 + 662134x + 110065$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.04412	0.06881
36	$3118922x^2 + 455323x - 2802046$	[1, 2, -5, 1]	$2x - 1$	1	0.4026	0.7362
37	$-4016249x^2 + 206811x + 2912111$	[0, 1, -1, 1]	$1/2x^2 + 1/2x - 1/2$	0	0.2163	0.3306
38	$-6928360x^2 + 4775129x + 1145839$	[1, 7, 0, 1]	$-x^2 - 1/2x + 1/2$	-1	0.4564	0.6857
39	$4223060x^2 + 4816830x - 7480429$	[1, -2, 1, 1]	$-2/5x^2 + 1/5x - 2/5$	-1	0.2834	0.4912
40	$-2705300x^2 + 9591959x - 6334590$	[0, 1, 1, 1]	$-x$	0	0.4089	0.6198

41	$-10944609x^2 + 4981940x + 4057950$	[1, 1, 0, 1]	$-x$	1	0.4672	0.6283
42	$1517760x^2 + 14408789x - 13815019$	[1, 1, 0, 1]	$-4/9x^2 + 4/9x + 1/9$	1	0.1286	0.2483
43	$-13649909x^2 + 14573899x - 2276640$	[1, 1, 0, 1]	$-x$	1	0.1155	0.2196
44	$-12132149x^2 + 28982688x - 16091659$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.06367	0.09446
45	$-82229674x^2 + 49033857x + 20304788$	[1, -2, 5, 1]	$-2x + 1$	-1	0.3871	0.5484
46	$-94361823x^2 + 78016545x + 4213129$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.1652	0.2784
47	$172378368x^2 + 12385768x - 143649299$	[1, 5, -3, 1]	$x - 1/2$	1	0.2081	0.3538
48	$73803416x^2 + 229838483x - 258567552$	[1, 2, 2, 1]	$-x$	1	0.4110	0.7693
49	$-192936775x^2 + 295469260x - 110705124$	[1, -1, 1, 1]	$-x$	1	0.4710	0.7380
50	$365315143x^2 - 283083492x - 32944175$	[1, 0, -1, 1]	$2/9x^2 + \frac{7}{9}x - 5/9$	1	0.2147	0.3454
51	$246181784x^2 + 242224251x - 402216851$	[1, 1, 1, 1]	$2/5x^2 - 1/5x + 2/5$	1	0.1386	0.2409
52	$-119133359x^2 + 525307743x - 369272676$	[0, -1, 1, 1]	$-x$	0	0.2076	0.3208
53	$127048425x^2 + 767531994x - 771489527$	[0, -1, 2, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.06241	0.1259
54	$-1280967138x^2 + 2437559473x - 1152634802$	[1, -5, 3, 1]	$-2x + 1$	-1	0.4705	0.7057
55	$3078043042x^2 - 512151233x - 1921450707$	[1, 5, -2, 1]	$x$	-1	0.6585	0.9334
56	$-1153918713x^2 + 3205091467x - 1924124329$	[1, 1, 0, 1]	$1/3x^2 - 1/3x - 1/3$	-1	0.2636	0.3927
57	$-4359010180x^2 + 2949710706x + 768815905$	[1, -1, 0, 1]	$1/2 - x$	-1	0.1841	0.2741
58	$5129215796x^2 + 2948320995x - 6538515270$	[1, 2, -1, 1]	$x$	-1	0.3635	0.6612
59	$-383713097x^2 + 9103123168x - 7693823694$	[1, 1, 1, 1]	$-x$	-1	0.6185	1.061
60	$-9488225976x^2 + 1389711x + 7307331175$	[1, -1, 0, 1]	$4/9x^2 - 4/9x - 1/9$	-1	0.1067	0.1700
61	$4745502699x^2 + 12051444163x - 14232338964$	[1, 1, 0, 1]	$x$	-1	0.2107	0.3853
62	$14233728675x^2 + 12050054452x - 21539670139$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.06729	0.1177
63	$-67179449182x^2 + 66424530387x - 6551022669$	[2, 9, 4, 1]	$2x^2 - x$	-2	0.4339	0.8622
64	$-81413177857x^2 + 54374475935x + 14988647470$	[0, -1, 1, 1]	$-1/3x^2 - 2/3x + 1/3$	0	0.3241	0.4796
65	$18601077121x^2 + 81413177857x - 85780526303$	[1, 7, 1, 2]	$-4/7x^2 - 2/7$	-1	0.2611	0.5086
66	$-62812100736x^2 + 135787653792x - 70791878833$	[0, 1, 1, 1]	$1/2 - x$	0	0.2471	0.3672
67	$-167193704160x^2 + 39385828465x + 94218151104$	[1, 1, -1, 1]	$-x$	1	0.3288	0.4515
68	$-230005804896x^2 + 175173482257x + 23426272271$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.08675	0.1380
69	$290176384705x^2 + 138429174719x - 345008707344$	[1, 1, -2, 1]	$x$	-1	0.1713	0.3201
70	$-520182189601x^2 + 36744307538x + 368434979615$	[0, 1, -1, 1]	$2/3x^2 + 1/3x - 2/3$	0	0.05428	0.08179
71	$1113852994278x^2 + 1220307841293x - 1928981548418$	[1, 2, 6, 1]	$2x - 1$	1	0.5638	0.9775
72	$1634035183879x^2 + 1183563533755x - 2297416528033$	[0, -1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.2591	0.4589
73	$-450471650124x^2 - 3706215886850x + 3599761039835$	[1, -5, -3, 1]	$x - 1/2$	1	0.2546	0.4986
74	$3480980061788x^2 - 3824996864897x + 675707475186$	[1, 2, 2, 1]	$-x$	1	0.2380	0.4426
75	$5565486895791x^2 + 1064782555708x - 5221470092682$	[1, -1, 1, 1]	$-x$	1	0.4423	0.8478
76	$3030508411664x^2 - 7531212751747x + 4275468515021$	[1, 1, 0, 1]	$-4/9x^2 + 4/9x + 1/9$	1	0.1286	0.1909
77	$9046466957579x^2 - 2760214309189x - 4545762617496$	[1, 1, 0, 1]	$-x$	1	0.1629	0.2192
78	$12076975369243x^2 - 10291427060936x - 270294102475$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x + 2/3$	0	0.04047	0.06988
79	$44736804860358x^2 + 2326136513257x - 36501220210204$	[1, -2, 5, 1]	$-2x + 1$	-1	0.4195	0.6999
80	$56813780229601x^2 - 7965290547679x - 36771514312679$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.2192	0.3153

Number:  $\xi = .7635\dots$  Equation:  $2x^3 + x^2 + 2x - 3 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x + 1/3$	0	0.1806	0.3611
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-2/3x^2 - 1/3x + 1/3$	-1	0.2237	0.3356
3	$3x^2 - x - 1$	[1, 3, -1, 1]	$1/2 - x$	-1	0.1326	0.1621
4	$x^2 - 6x + 4$	[1, 3, -1, 1]	$-2/3x^2 + 1/3x$	-1	0.07116	0.1048
5	$14x^2 - 12x + 1$	[1, 4, 1, 1]	$-2x + 1$	-1	0.2042	0.3552
6	$15x^2 - 18x + 5$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.3029	0.5367
7	$-19x^2 - 13x + 21$	[1, 6, -2, 1]	$-1/2x^2 + 1/4x - 3/4$	1	0.3507	0.7722
8	$29x^2 - 30x + 6$	[1, 1, 0, 1]	$2/3x^2 - 1/3x$	1	0.09600	0.1895
9	$25x^2 - 61x + 32$	[1, 1, 1, 1]	$-2/3x^2 - 1/3x + 1/3$	1	0.1229	0.1774
10	$-93x^2 - 77x + 113$	[1, -6, 4, 1]	$-x^2 + 1/2x - 1/2$	1	0.2958	0.6336
11	$-68x^2 - 138x + 145$	[0, 1, 1, 1]	$-2/7x^2 - 5/7x + 2/7$	0	0.2076	0.4413
12	$104x^2 - 213x + 102$	[1, 3, 0, 1]	$-x$	-1	0.3420	0.5020
13	$-265x^2 - 2x + 156$	[1, 1, -1, 1]	$x$	-1	0.4042	0.5443
14	$-333x^2 - 140x + 301$	[1, 0, 1, 1]	$-4/9x^2 - \frac{8}{9}x + 2/9$	-1	0.4567	0.9105
15	$36x^2 - 351x + 247$	[1, -1, 1, 1]	$1/3x^2 - 1/6x + 1/2$	-1	0.2877	0.4332
16	$369x^2 - 211x - 54$	[0, -1, 1, 1]	$-x$	0	0.2428	0.3273
17	$405x^2 - 562x + 193$	[0, -1, 2, 1]	$-2/3x^2 - 1/3x + 1/3$	0	0.1744	0.2856
18	$-967x^2 + 69x + 511$	[1, 2, -1, 1]	$x - 1/2$	1	0.1361	0.1748
19	$617x^2 - 1828x + 1036$	[1, 3, 1, 1]	$2/3x^2 - 1/3x$	1	0.06522	0.09360
20	$4890x^2 - 2666x - 815$	[1, -4, 1, 1]	$-2x + 1$	1	0.2459	0.3259
21	$5507x^2 - 4494x + 221$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.2800	0.4669
22	$5111x^2 + 5705x - 7335$	[1, -6, 2, 1]	$1/2x^2 - 1/4x + 3/4$	-1	0.4225	0.8832
23	$10001x^2 + 3039x - 8150$	[1, 0, 1, 1]	$-2/3x^2 - 1/3x + 1/3$	-1	0.2433	0.4273
24	$396x^2 - 10199x + 7556$	[1, -1, 0, 1]	$-1/3x^2 + 1/6x - 1/2$	-1	0.1435	0.2225
25	$10397x^2 - 7160x - 594$	[0, 1, 1, 1]	$-x$	0	0.1138	0.1682
26	$-10793x^2 + 17359x - 6962$	[0, -1, -2, 1]	$2/3x^2 + 1/3x - 1/3$	0	0.09831	0.1521
27	$24321x^2 + 32181x - 38747$	[1, 2, -2, 1]	$-x^2 + 1/2x - 1/2$	1	0.3434	0.7156
28	$13528x^2 + 49540x - 45709$	[0, 1, 1, 1]	$-2/7x^2 - 5/7x + 2/7$	0	0.2393	0.4608
29	$42776x^2 - 59237x + 20292$	[1, -3, 0, 1]	$x$	-1	0.2612	0.4280
30	$80625x^2 + 22484x - 64164$	[1, 1, 1, 1]	$-x$	-1	0.3694	0.6321
31	$-29248x^2 + 108777x - 66001$	[1, -1, 0, 1]	$2/9x^2 - 5/9x - 1/9$	-1	0.2728	0.3930
32	$123401x^2 - 36753x - 43872$	[1, 1, 0, 1]	$x$	-1	0.2681	0.3257
33	$152649x^2 - 145530x + 22129$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x + 1/3$	0	0.1271	0.2452
34	$298179x^2 + 57755x - 217909$	[1, 1, 2, 1]	$1/2 - x$	-1	0.1278	0.2008
35	$283169x^2 - 531098x + 240424$	[1, 3, -1, 1]	$-2/3x^2 + 1/3x$	-1	0.05436	0.08095
36	$1628534x^2 - 445608x - 609083$	[1, 4, 1, 1]	$-2x + 1$	-1	0.2693	0.3272
37	$1911703x^2 - 976706x - 368659$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.3331	0.4325
38	$-1259875x^2 - 2237617x + 2442801$	[1, 6, -2, 1]	$-1/2x^2 + 1/4x - 3/4$	1	0.4627	0.9740
39	$2888409x^2 + 1792009x - 3051884$	[1, 0, -1, 1]	$2/3x^2 + 1/3x - 1/3$	1	0.2237	0.5012
40	$651828x^2 - 3214323x + 2074142$	[1, 1, 0, 1]	$-1/3x^2 + 1/6x - 1/2$	1	0.1407	0.2051

41	$3540237x^2 - 1422314x - 977742$	$[0, 1, 1, 1]$	$-x$	0	0.1303	0.1613
42	$4192065x^2 - 4636637x + 1096400$	$[0, 1, 2, 1]$	$-2/3x^2 - 1/3x + 1/3$	0	0.06925	0.1297
43	$-5733037x^2 - 12250281x + 12694853$	$[1, -2, 2, 1]$	$-x^2 + 1/2x - 1/2$	1	0.3640	0.7772
44	$16116432x^2 - 15332225x + 2311458$	$[1, 3, 0, 1]$	$4/7x^2 - 4/7x + 3/7$	1	0.1909	0.3676
45	$-23390441x^2 - 13804974x + 24174648$	$[1, 2, -1, 1]$	$x$	1	0.3279	0.7418
46	$-14575460x^2 + 32219143x - 16102711$	$[1, -2, -1, 1]$	$-2/9x^2 + 5/9x + 1/9$	1	0.2363	0.3437
47	$39506873x^2 - 1527251x - 21863190$	$[1, -1, 0, 1]$	$x$	1	0.2713	0.3548
48	$54082333x^2 - 33746394x - 5760479$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/3x + 1/3$	0	0.1575	0.2206
49	$-87828727x^2 - 42969615x + 84003739$	$[1, -1, -2, 1]$	$x - 1/2$	1	0.1094	0.2358
50	$113925145x^2 - 145736048x + 44859112$	$[1, 3, 1, 1]$	$2/3x^2 - 1/3x$	1	0.04041	0.06894
51	$519322386x^2 - 7603982x - 296916323$	$[1, -4, 1, 1]$	$-2x + 1$	1	0.2704	0.3589
52	$633247531x^2 - 153340030x - 252057211$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x$	0	0.3609	0.4393
53	$267265175x^2 + 816238709x - 778983579$	$[1, -6, 2, 1]$	$1/2x^2 - 1/4x + 3/4$	-1	0.5101	1.029
54	$-365982356x^2 + 969578739x - 526926368$	$[0, -1, 1, 1]$	$1/3 - 2/3x$	0	0.1264	0.1818
55	$1152569917x^2 - 160944012x - 548973534$	$[1, 1, 0, 1]$	$x$	-1	0.1364	0.1700
56	$1518552273x^2 - 1130522751x - 22047166$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/3x + 1/3$	0	0.07334	0.1140
57	$1108475585x^2 + 4372665641x - 3984636119$	$[1, 4, 2, 1]$	$x^2 - 1/2x + 1/2$	-1	0.4264	0.8079
58	$5298150048x^2 + 1950676127x - 4577703985$	$[1, 2, 1, 1]$	$-6/7x^2 - 1/7x - 1/7$	-1	0.4705	0.8855
59	$410076688x^2 - 5503188392x + 3962588953$	$[1, -1, 0, 1]$	$-1/3x^2 + 1/6x - 1/2$	-1	0.2878	0.4387
60	$5708226736x^2 - 3552512265x - 615115032$	$[0, 1, 1, 1]$	$-x$	0	0.2364	0.3308
61	$6406625633x^2 + 6323341768x - 8562340104$	$[1, 1, 0, 1]$	$-x$	1	0.4062	0.8551
62	$6118303424x^2 - 9055700657x + 3347473921$	$[1, 1, 0, 1]$	$-2/9x^2 + 5/9x + 1/9$	1	0.1843	0.2937
63	$12114852369x^2 + 2770829503x - 9177455136$	$[1, 1, 0, 1]$	$-x$	1	0.2519	0.4096
64	$18233155793x^2 - 6284871154x - 5829981215$	$[0, 1, 1, 1]$	$-2/3x^2 - 1/3x + 1/3$	0	0.1767	0.2158
65	$24518026947x^2 + 20920701431x - 30264724297$	$[1, -1, 2, 1]$	$1/2 - x$	-1	0.1283	0.2738
66	$42296292801x^2 - 37004485390x + 3597325516$	$[1, 3, -1, 1]$	$-2/3x^2 + 1/3x$	-1	0.03361	0.05958
67	$158601556382x^2 + 40393449180x - 123291552887$	$[1, 4, 1, 1]$	$-2x + 1$	-1	0.2490	0.4157
68	$-200897849183x^2 - 3388963790x + 119694227371$	$[0, -1, -1, 1]$	$2/3x^2 + 2/3x$	0	0.3587	0.4861
69	$161990520172x^2 - 278504145479x + 118208107202$	$[1, 7, -1, 1]$	$1/2x^2 - 1/4x - 1/4$	-1	0.1030	0.1564
70	$359499405565x^2 + 43782412970x - 242985780258$	$[1, -1, 0, 1]$	$-x$	-1	0.1310	0.1928
71	$521489925737x^2 - 234721732509x - 124777673056$	$[0, 1, 1, 1]$	$-2/3x^2 - 1/3x + 1/3$	0	0.08540	0.1076
72	$-109944059453x^2 - 1483474517125x + 1196706323897$	$[1, 5, -2, 1]$	$-x^2 + 1/2x - 1/2$	1	0.4846	0.8026
73	$1512423316492x^2 + 1057813465077x - 1689247450267$	$[1, 2, -1, 1]$	$6/7x^2 + 1/7x + 1/7$	1	0.4722	1.036
74	$411545866284x^2 - 1718196249634x + 1071928650841$	$[1, 1, 0, 1]$	$-1/3x^2 + 1/6x - 1/2$	1	0.2770	0.4008
75	$1923969182776x^2 - 660382784557x - 617318799426$	$[0, 1, 1, 1]$	$-x$	0	0.2652	0.3238
76	$2335515049060x^2 - 2378579034191x + 454609851415$	$[0, 1, 2, 1]$	$-2/3x^2 - 1/3x + 1/3$	0	0.1256	0.2512
77	$-3546336558721x^2 - 1880905197645x + 3503272573590$	$[1, -2, -1, 1]$	$x$	1	0.2131	0.4810
78	$5881851607781x^2 - 497673836546x - 3048662722175$	$[0, 1, -1, 1]$	$2/3x^2 + 1/3x - 1/3$	0	0.1816	0.2317
79	$8930514329956x^2 - 7796119887130x + 746510754819$	$[1, 3, 0, 1]$	$-x^2 - 1/2x$	-1	0.4039	0.7145
80	$-6379525444327x^2 - 8681677411683x + 10347108772759$	$[1, -2, 1, 1]$	$-1/3x^2 + 1/3x - 1/3$	-1	0.1481	0.3086

Number:  $\xi = .6614\dots$  Equation:  $2x^3 + x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$2/3x - 2/3$	-1	0.09875	0.2962
2	$-3x^2 + 2x$	[2, -3, 0, 1]	$-x^2 + 1/2x$	-2	0.09484	0.1370
3	$3x^2 - 5x + 2$	[1, 4, -3, 2]	$2/3x^2 + 1/3x$	-1	0.1349	0.2050
4	$6x^2 - 7x + 2$	[0, -1, 1, 1]	$-2/3x^2 - x$	0	0.2520	0.4576
5	$-10x^2 - 7x + 9$	[1, 7, 4, 1]	$x$	-1	0.3401	0.7821
6	$9x^2 - 12x + 4$	[1, 1, 0, 1]	$1/3x^2 - 1/3x$	-1	0.03656	0.06118
7	$42x^2 + 7x - 23$	[2, -3, 0, 1]	$-2x + 1$	-2	0.1445	0.1919
8	$79x^2 - 84x + 21$	[1, 14, 1, 2]	$-x^2$	-1	0.2528	0.4923
9	$56x^2 + 93x - 86$	[1, 3, -1, 1]	$-1/3 - 2/3x$	-1	0.2400	0.5322
10	$-135x^2 - 9x + 65$	[0, -1, -1, 1]	$2/3x^2$	0	0.1474	0.1823
11	$-126x^2 - 272x + 235$	[1, 0, -3, 1]	$1/2 - x$	-1	0.09658	0.1894
12	$209x^2 - 424x + 189$	[1, -3, 2, 1]	$-x$	-1	0.1552	0.2238
13	$83x^2 - 696x + 424$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x$	0	0.2141	0.2967
14	$292x^2 - 1120x + 613$	[0, 1, 2, 1]	$-2/3x^2 - x$	0	0.5284	0.7226
15	$-1183x^2 - 521x + 862$	[1, 5, -2, 1]	$-1/2x^2 + 1/2x - 1/2$	-1	0.2288	0.3946
16	$1558x^2 - 1295x + 175$	[1, 1, -1, 1]	$2/7x^2 - 3/7x - 5/7$	-1	0.3463	0.5899
17	$375x^2 - 1816x + 1037$	[0, 1, 1, 1]	$-1/3x^2$	0	0.06859	0.09388
18	$-4382x^2 + 2765x + 88$	[1, 0, -3, 1]	$2x - 1$	1	0.1289	0.1803
19	$-4956x^2 - 6661x + 6573$	[1, 6, 2, 1]	$-x$	1	0.1970	0.4978
20	$-9338x^2 - 3896x + 6661$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x$	0	0.1982	0.3336
21	$13521x^2 - 10111x + 773$	[1, -3, 0, 1]	$2/3x^2$	-1	0.1212	0.1893
22	$-23632x^2 - 14453x + 19895$	[1, 2, 0, 1]	$x - 1/2$	-1	0.05973	0.1244
23	$-2637x^2 + 55343x - 35448$	[1, -3, -2, 1]	$x$	-1	0.2166	0.3060
24	$20995x^2 + 69796x - 55343$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x$	0	0.1764	0.3033
25	$115960x^2 - 118328x + 27537$	[1, -4, -3, 1]	$-2/3x^2 + x - 1$	-1	0.3196	0.6438
26	$136955x^2 - 48532x - 27806$	[0, 1, 1, 1]	$-1/3x^2 - 2/3x$	0	0.2512	0.2931
27	$39353x^2 + 194935x - 146134$	[1, 2, 0, 1]	$2/7x^2 - 3/7x + 2/7$	1	0.06475	0.1038
28	$311164x^2 - 605262x + 264193$	[1, 2, -2, 1]	$2x - 1$	1	0.2015	0.2931
29	$-760844x^2 - 202553x + 466746$	[1, -7, -2, 1]	$x$	1	0.2105	0.3047
30	$-1072008x^2 + 402709x + 202553$	[0, -1, 1, 1]	$-2/3x^2 - 1/3x$	0	0.2140	0.2518
31	$938713x^2 + 1810565x - 1608012$	[1, -2, -2, 1]	$x$	1	0.4037	0.8307
32	$-894139x^2 + 2010721x - 938713$	[1, 1, 1, 1]	$-2/3x$	1	0.2195	0.3108
33	$-2904860x^2 + 602865x + 871852$	[1, -1, 1, 1]	$1/2 - x$	1	0.07393	0.08378
34	$4960155x^2 + 4626277x - 5229142$	[1, 2, -2, 1]	$x - 1$	1	0.08113	0.2176
35	$7015450x^2 + 9855419x - 9586432$	[0, 1, 2, 1]	$-2/3x^2 - x$	0	0.2746	0.6736
36	$11975605x^2 + 14481696x - 14815574$	[0, 1, 3, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.03064	0.07994
37	$-77533568x^2 - 36815543x + 58260662$	[2, 9, -10, 1]	$2x^2 + x - 1$	2	0.4499	0.8054
38	$-5012182x^2 + 80039659x - 50742389$	[1, 18, 3, 2]	$-2/7x^2 + 1/7x - 4/7$	1	0.2886	0.4057
39	$-82545750x^2 + 43224116x + 7518273$	[0, 1, 1, 1]	$-x$	0	0.2030	0.2604
40	$-87557932x^2 + 123263775x - 43224116$	[0, 1, 2, 1]	$-2/3x^2 - 1/3x$	0	0.2318	0.3773

41	$167042741x^2 + 88112782x - 131336898$	$[1, -2, 0, 1]$	$x$	1	0.2815	0.5
42	$-3060941x^2 + 254600673x - 167042741$	$[1, 1, 1, 1]$	$-2/3x$	1	0.2884	0.4
43	$-257661614x^2 + 289751666x - 78929959$	$[1, -1, 1, 1]$	$1/2 - x$	1	0.06027	0.1
44	$418582473x^2 + 307562462x - 386492421$	$[1, 2, -1, 1]$	$x$	1	0.08318	0.1
45	$676244087x^2 + 17810796x - 307562462$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/3x$	0	0.1112	0.1
46	$1094826560x^2 + 325373258x - 694054883$	$[0, -1, 2, 1]$	$-2/3x^2 - x$	0	0.2777	0.4
47	$-1771070647x^2 - 343184054x + 1001617345$	$[0, 2, -3, 1]$	$1/2x^2 + 1/2x - 1/2$	0	0.03588	0.04
48	$-9087517278x^2 + 2938858380x + 2031169507$	$[2, 19, -10, 1]$	$-2x^2 - x + 1$	-2	0.5064	0.5
49	$2855773186x^2 + 7659630685x - 6314829286$	$[1, -18, 3, 2]$	$-2/7x^2 + 1/7x - 4/7$	-1	0.2165	0.3
50	$-6231744092x^2 + 10598489065x - 4283659779$	$[0, 1, 1, 1]$	$-x$	0	0.2742	0.4
51	$-13714361111x^2 - 5063956359x + 9347616138$	$[1, 1, -1, 1]$	$-x$	1	0.3036	0.4
52	$-3375970906x^2 + 18258119750x - 10598489065$	$[1, 1, 0, 1]$	$2/3x + 1/3$	1	0.4167	0.5
53	$-19946105203x^2 + 5534532706x + 5063956359$	$[1, 1, 0, 1]$	$-x$	1	0.3289	0.3
54	$-10338390205x^2 - 23322076109x + 19946105203$	$[1, -1, 0, 1]$	$-2/3x$	1	0.1982	0.3
55	$-40622885613x^2 - 41109619512x + 44956166765$	$[0, 1, 2, 1]$	$-x^2 - 1/2x + 1/2$	0	0.1975	0.5
56	$-12983685904x^2 + 47114728565x - 25480637909$	$[1, 1, -1, 1]$	$-2/7x^2 + 1/7x - 4/7$	-1	0.1305	0.1
57	$-53606571517x^2 + 6005109053x + 19475528856$	$[0, 1, 1, 1]$	$-x$	0	0.1118	0.1
58	$-66590257421x^2 + 53119837618x - 6005109053$	$[0, 1, 2, 1]$	$-2/3x^2 - 1/3x$	0	0.08831	0.1
59	$-120196828938x^2 + 59124946671x + 13470419803$	$[0, 2, 3, 1]$	$-2/3x^2 - x$	0	0.2742	0.3
60	$-186787086359x^2 + 112244784289x + 7465310750$	$[0, 3, 5, 1]$	$-1/2x^2 - 1/2x + 1/2$	0	0.03269	0.04
61	$-598063741296x^2 - 463047096288x + 567826569827$	$[3, 13, 3, 1]$	$-2x + 1$	-3	0.1082	0.2
62	$-164015225640x^2 + 1464922181771x - 897095611944$	$[1, 18, -5, 3]$	$x$	-1	0.4292	0.5
63	$-1546929794591x^2 + 651072773484x + 246022838460$	$[1, 2, 1, 1]$	$-x$	-1	0.3165	0.3
64	$-434048515656x^2 - 1927969278059x + 1464922181771$	$[1, -1, 0, 1]$	$-1/3 - 2/3x$	-1	0.3806	0.6
65	$1980978310247x^2 + 1276896504575x - 1710945020231$	$[0, -1, -1, 1]$	$2/3x^2$	0	0.1172	0.2
66	$-4968819835053x^2 + 4883062683994x - 1056122708508$	$[2, 3, 0, 1]$	$x^2 - 1/2x$	-2	0.07867	0.1
67	$4264738029381x^2 - 10203923421883x + 4883062683994$	$[1, -3, -3, 2]$	$2/3x^2 + 1/3x$	-1	0.1699	0.2
68	$9233557864434x^2 - 15086986105877x + 5939185392502$	$[0, -1, 1, 1]$	$-2/3x^2 - x$	0	0.3539	0.5
69	$15439027008713x^2 + 18115074826032x - 18733399480645$	$[1, -7, -5, 1]$	$1/2x^2 - 1/2x + 1/2$	-1	0.2117	0.5
70	$13498295893815x^2 - 25290909527760x + 10822248076496$	$[1, 1, 0, 1]$	$-2/7x^2 + 3/7x - 2/7$	-1	0.04910	0.07
71	$-77578410843150x^2 + 6440517999307x + 29672639604949$	$[1, -3, -3, 1]$	$2x - 1$	-1	0.1491	0.1
72	$-122808134264032x^2 - 139599737870367x + 146040255869674$	$[1, 7, 3, 1]$	$1 - x$	-1	0.1789	0.4
73	$246233528423265x^2 - 44612463525681x - 78195670738351$	$[1, -3, 0, 1]$	$2/3x^2$	-1	0.1483	0.1
74	$290845991948946x^2 + 425239731610408x - 408448128004073$	$[1, -3, 0, 1]$	$1/2 - x$	-1	0.07138	0.1
75	$-279816735635935x^2 + 844717115927492x - 436268987923419$	$[1, -3, 2, 1]$	$-x$	-1	0.1863	0.2
76	$11029256313011x^2 + 1269956847537900x - 844717115927492$	$[0, 1, 1, 1]$	$-2/3x^2 - 1/3x$	0	0.2156	0.3
77	$-268787479322924x^2 + 2114673963465392x - 1280986103850911$	$[0, 1, 2, 1]$	$-2/3x^2 - x$	0	0.5696	0.7
78	$2249067703126854x^2 - 877804884866525x - 403181218984386$	$[1, 4, -3, 1]$	$x$	-1	0.4261	0.5
79	$2260096959439865x^2 + 392151962671375x - 1247898334911878$	$[1, 0, 1, 1]$	$-1/3x^2 - 2/3x$	-1	0.2525	0.3
80	$-2517855182449778x^2 + 2992478848331917x - 877804884866525$	$[1, -1, 0, 1]$	$2/7x^2 - 3/7x - 5/7$	-1	0.3863	0.6

Number:  $\xi = .2893\dots$  Equation:  $2x^3 + x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 3x + 1$	$[1, -3, -2, 1]$	$2x - 1$	-1	0.3174	0.4938
2	$-2x^2 + 4x - 1$	$[1, -4, -1, 1]$	$x$	-1	0.1632	0.2143
3	$-5x^2 - 2x + 1$	$[1, 2, 1, 1]$	$-x$	-1	0.07379	0.08855
4	$16x^2 - 15x + 3$	$[1, -4, -2, 1]$	$2x^2 - x$	-1	0.09212	0.1763
5	$-23x^2 - 21x + 8$	$[2, 7, 1, 1]$	$x$	-2	0.05507	0.1076
6	$81x^2 - 58x + 10$	$[1, 9, -1, 2]$	$2x^2 - x + 1$	-1	0.5997	0.9164
7	$85x^2 + 48x - 21$	$[1, -3, 0, 1]$	$2/11x^2 - \frac{5}{11}x + \frac{7}{11}$	-1	0.3435	0.4740
8	$-104x^2 + 37x - 2$	$[1, -1, 0, 1]$	$4/5x^2 + 1/5$	-1	0.1373	0.1547
9	$-89x^2 - 154x + 52$	$[1, -2, 0, 1]$	$-x$	-1	0.08707	0.1261
10	$219x^2 - 371x + 89$	$[1, -3, 2, 1]$	$-2x$	-1	0.2924	0.4111
11	$-371x^2 - 425x + 154$	$[1, 3, 0, 1]$	$x + 1/2$	-1	0.3029	0.5734
12	$130x^2 - 525x + 141$	$[1, 1, 0, 1]$	$-2/5x^2 - x - 3/5$	-1	0.4264	0.4834
13	$590x^2 + 54x - 65$	$[1, -1, 0, 1]$	$-x$	-1	0.1558	0.1590
14	$-241x^2 - 950x + 295$	$[1, 1, 0, 1]$	$x$	-1	0.1169	0.1357
15	$1659x^2 - 1313x + 241$	$[1, 3, 1, 1]$	$-2x$	-1	0.2062	0.3397
16	$1418x^2 - 2263x + 536$	$[0, 1, 1, 1]$	$-x^2 - 1/2x - 1/2$	0	0.2794	0.4048
17	$2972x^2 + 1591x - 709$	$[1, -3, 1, 1]$	$-x$	1	0.1394	0.1873
18	$105x^2 - 5167x + 1486$	$[1, 1, -1, 1]$	$x$	1	0.1219	0.1321
19	$10439x^2 - 2657x - 105$	$[1, 3, 1, 1]$	$-2x$	1	0.2879	0.3066
20	$10544x^2 - 7824x + 1381$	$[0, 1, 1, 1]$	$-x^2 - 1/2x - 1/2$	0	0.2140	0.3354
21	$13096x^2 + 14435x - 5272$	$[1, -3, 1, 1]$	$-x$	-1	0.1160	0.2270
22	$7887x^2 - 24916x + 6548$	$[1, 1, -1, 1]$	$x$	-1	0.09999	0.1169
23	$57719x^2 + 10565x - 7887$	$[1, 3, 1, 1]$	$-2x$	-1	0.3105	0.3267
24	$65606x^2 - 14351x - 1339$	$[0, 1, 1, 1]$	$-x^2 - 1/2x - 1/2$	0	0.2921	0.3062
25	$47154x^2 + 99748x - 32803$	$[1, -3, 1, 1]$	$-x$	1	0.1954	0.2602
26	$76171x^2 - 103534x + 23577$	$[1, 1, -1, 1]$	$x$	1	0.06089	0.09701
27	$283239x^2 + 181359x - 76171$	$[1, 3, 1, 1]$	$-2x$	1	0.2637	0.3908
28	$359410x^2 + 77825x - 52594$	$[0, 1, 1, 1]$	$-x^2 - 1/2x - 1/2$	0	0.3092	0.3303
29	$-540769x^2 + 332525x - 50940$	$[1, -4, -1, 1]$	$x^2$	-1	0.05859	0.08126
30	$1205819x^2 + 1520427x - 540769$	$[3, 4, 2, 1]$	$2x$	-3	0.2680	0.4704
31	$1520427x^2 - 1589284x + 332525$	$[1, -10, -1, 3]$	$x + 1/2$	-1	0.2311	0.4527
32	$-1746588x^2 - 1187902x + 489829$	$[1, -1, 0, 1]$	$2/5x^2 + x + 3/5$	-1	0.2576	0.3969
33	$2952407x^2 + 2708329x - 1030598$	$[1, 0, -1, 1]$	$x^2 + x$	-1	0.2745	0.5389
34	$314608x^2 - 3109711x + 873294$	$[1, -1, -1, 1]$	$-2/5x^2 + 1/5x - 4/5$	-1	0.2362	0.2572
35	$3267015x^2 - 401382x - 157304$	$[0, 1, 1, 1]$	$-x$	0	0.07542	0.07673
36	$-7336794x^2 - 9714271x + 3424319$	$[1, -2, 1, 1]$	$2x - 1$	1	0.2810	0.4762
37	$6045874x^2 - 14429510x + 3668397$	$[1, 4, 1, 1]$	$-x$	1	0.1794	0.2224
38	$-17452447x^2 - 5400414x + 3022937$	$[1, 2, -1, 1]$	$x$	1	0.07590	0.08545
39	$51751596x^2 - 56631483x + 12052033$	$[1, 4, -2, 1]$	$2x^2 - x$	1	0.09743	0.1832
40	$82507281x^2 + 65575361x - 25875798$	$[2, -7, -1, 1]$	$-x$	2	0.05983	0.1035



41	$265409599x^2 - 224754200x + 42807718$	[1, 9, 1, 2]	$-2x^2 + x - 1$	1	0.5436	0.
42	$299273439x^2 + 140094600x - 65575361$	[1, 3, 0, 1]	$2/11x^2 - \frac{5}{11}x + \frac{7}{11}$	1	0.3595	0.
43	$347916880x^2 - 159178839x + 16931920$	[1, 1, 0, 1]	$-4/5x^2 - 1/5$	1	0.1297	0.
44	$-333137279x^2 - 504943400x + 173958440$	[1, -2, 0, 1]	$x$	1	0.07903	0.
45	$676749521x^2 - 1347328717x + 333137279$	[1, 3, 2, 1]	$-2x$	1	0.3256	0.
46	$1347328717x^2 + 1355651361x - 504943400$	[1, -3, 0, 1]	$-1/2 - x$	1	0.2602	0.
47	$343612242x^2 - 1852272117x + 507095719$	[1, 1, 0, 1]	$2/5x^2 + x + 3/5$	1	0.4482	0.
48	$2024078238x^2 + 8322644x - 171806121$	[1, 1, 0, 1]	$-x$	1	0.1548	0.
49	$1003716475x^2 + 3207923478x - 1012039119$	[1, -1, 0, 1]	$-x$	1	0.1125	0.
50	$5412130481x^2 - 5035227663x + 1003716475$	[1, 3, -1, 1]	$2x$	1	0.1853	0.
51	$4408414006x^2 - 8243151141x + 2015755594$	[0, -1, 1, 1]	$-x^2 - 1/2x - 1/2$	0	0.3130	0.
52	$10447358144x^2 + 4596865415x - 2204207003$	[1, 3, 1, 1]	$-x$	1	0.1455	0.
53	$-626813657x^2 - 17875244219x + 5223679072$	[1, 1, -1, 1]	$x$	1	0.1232	0.
54	$34496861124x^2 - 30203043334x + 5850492729$	[1, 3, 2, 1]	$-2x + 1$	1	0.1934	0.
55	$47451473896x^2 + 45894798957x - 17248430562$	[1, -4, 1, 1]	$-x$	1	0.1058	0.
56	$-22169062009x^2 + 88425641406x - 23725736948$	[1, -2, 1, 1]	$-x$	1	0.1063	0.
57	$199020344821x^2 + 19055712131x - 22169062009$	[1, 3, -1, 1]	$2x$	1	0.3116	0.
58	$221189406830x^2 - 69369929275x + 1556674939$	[0, -1, 1, 1]	$-x^2 - 1/2x - 1/2$	0	0.2804	0.
59	$179964632690x^2 + 330227435306x - 110594703415$	[1, 3, 1, 1]	$-x$	1	0.1808	0.
60	$240245118961x^2 - 380541652450x + 89982316345$	[1, 1, -1, 1]	$x$	1	0.06945	0.
61	$1001328423861x^2 + 540770724193x - 240245118961$	[1, 3, 1, 1]	$-2x$	1	0.2782	0.
62	$1241573542822x^2 + 160229071743x - 150262802616$	[0, 1, 1, 1]	$-x^2 - 1/2x - 1/2$	0	0.3115	0.
63	$-1782344267015x^2 + 1311623320913x - 230278849834$	[1, -4, -1, 1]	$x^2$	-1	0.05373	0.
64	$4405590908841x^2 + 4886475101377x - 1782344267015$	[3, 4, 2, 1]	$2x$	-3	0.2337	0.
65	$4886475101377x^2 - 5947493079588x + 1311623320913$	[1, -10, -1, 3]	$x + 1/2$	-1	0.2732	0.
66	$-6187935175856x^2 - 3574851780464x + 1552065417181$	[1, -1, 0, 1]	$2/5x^2 + x + 3/5$	-1	0.2729	0.
67	$10593526084697x^2 + 8461326881841x - 3334409684196$	[1, 0, -1, 1]	$x^2 + x$	-1	0.2984	0.
68	$480884192536x^2 - 10833968180965x + 3093967587928$	[1, -1, -1, 1]	$-2/5x^2 + 1/5x - 4/5$	-1	0.2420	0.
69	$11074410277233x^2 - 2372641299124x - 240442096268$	[0, 1, 1, 1]	$-x$	0	0.07316	0.
70	$-26894103152714x^2 - 31331473725111x + 11314852373501$	[1, -2, 1, 1]	$2x - 1$	1	0.2468	0.
71	$17884422148754x^2 - 51656007102572x + 13447051576357$	[1, 4, 1, 1]	$-x$	1	0.1941	0.
72	$-60598218176949x^2 - 13379581646774x + 8942211074377$	[1, 2, -1, 1]	$x$	1	0.07726	0.
73	$-199679076679601x^2 + 11517262162250x + 13379581646774$	[0, -1, 3, 1]	$-2x^2 - x$	0	0.3831	0.
74	$165840021796200x^2 - 211196338841851x + 47218636530175$	[1, 4, -2, 1]	$4/5x^2 + 1/5$	1	0.1144	0.
75	$-294116349739951x^2 - 201541396164125x + 82920010898100$	[1, 2, 1, 1]	$x$	1	0.06419	0.
76	$-863039163864401x^2 + 856302617529654x - 175494964473926$	[1, -4, 0, 1]	$-2x^2 + x - 1$	1	0.4853	0.
77	$1048189071016053x^2 + 393427849650524x - 201541396164125$	[1, -3, 0, 1]	$-2/11x^2 + \frac{5}{11}x - \frac{7}{11}$	1	0.3723	0.
78	$-1157155513604352x^2 + 654761221365529x - 92574953575826$	[1, 1, 0, 1]	$4/5x^2 + 1/5$	1	0.1211	0.
79	$1233338978167705x^2 + 1643158316830702x - 578577756802176$	[1, 2, 0, 1]	$x$	1	0.07066	0.
80	$-4857172448107467x^2 - 4274713729126577x + 1643158316830702$	[0, 1, -3, 1]	$2x^2 + x$	0	0.2820	0.

Number:  $\xi = .8907\dots$  Equation:  $2x^3 + 2x^2 - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.09735	0.1947
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$-2/3x^2 - 2/3x + 1$	-1	0.04778	0.07167
3	$7x^2 - 4x - 2$	$[1, 8, -2, 1]$	$-2x + 1$	-1	0.4574	0.6441
4	$8x^2 - 6x - 1$	$[0, 1, 1, 1]$	$-4/9x^2 - 2/3x + 2/3$	0	0.1671	0.2637
5	$-14x^2 - x + 12$	$[1, 6, -3, 1]$	$x$	1	0.4559	0.7931
6	$9x^2 - 17x + 8$	$[1, 2, 1, 1]$	$2/3x^2 - 1/3x - 1$	1	0.5162	0.7752
7	$-5x^2 - 18x + 20$	$[0, 1, 1, 1]$	$-\frac{6}{11}x^2 - 4/11x + \frac{5}{11}$	0	0.2158	0.4041
8	$22x^2 - 5x - 13$	$[1, -1, 0, 1]$	$2/3x^2$	-1	0.1381	0.1935
9	$27x^2 + 13x - 33$	$[0, -1, 1, 1]$	$-x$	0	0.2768	0.5051
10	$49x^2 + 8x - 46$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.07489	0.1429
11	$108x^2 - 131x + 31$	$[2, 4, 5, 1]$	$-2x^2 + 2$	2	0.2212	0.3840
12	$180x^2 + 108x - 239$	$[1, 9, -1, 2]$	$2/3x^2$	1	0.3895	0.6899
13	$-167x^2 + 270x - 108$	$[1, -2, 0, 1]$	$x^2$	1	0.3943	0.6083
14	$-347x^2 + 162x + 131$	$[0, -1, 1, 1]$	$1/3 - 2/3x$	0	0.1696	0.2308
15	$95x^2 - 509x + 378$	$[1, -1, -1, 1]$	$2/3x^2 - 1$	1	0.1720	0.2728
16	$-157x^2 - 856x + 887$	$[0, 1, 2, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.06408	0.1258
17	$-1241x^2 + 2630x - 1358$	$[1, 2, -4, 1]$	$2x - 1$	-1	0.4402	0.6556
18	$-3329x^2 - 385x + 2984$	$[1, 6, 2, 1]$	$2/9x^2 - 2/3x - 1/3$	-1	0.5296	0.9621
19	$1084x^2 - 3486x + 2245$	$[1, -1, 0, 1]$	$4/7x^2 - 2/7x - 4/7$	-1	0.2163	0.3270
20	$-4570x^2 + 2245x + 1626$	$[1, 1, 0, 1]$	$x$	-1	0.3312	0.4530
21	$-5654x^2 + 5731x - 619$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.06391	0.1269
22	$-11385x^2 + 619x + 8481$	$[1, 1, 2, 1]$	$-x$	-1	0.2246	0.3500
23	$-17039x^2 + 6350x + 7862$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.06174	0.08346
24	$14015x^2 + 57467x - 62305$	$[2, 10, -7, 1]$	$-2x^2 + 1$	2	0.4844	0.9209
25	$-3024x^2 + 63817x - 54443$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x + 2/7$	0	0.3580	0.6193
26	$-66841x^2 + 54443x + 4536$	$[1, 8, 1, 2]$	$-x$	-1	0.3498	0.5834
27	$80856x^2 + 3024x - 66841$	$[1, 0, -1, 1]$	$2/3x$	-1	0.3039	0.5120
28	$-69865x^2 + 118260x - 49907$	$[1, 1, 0, 1]$	$x^2 - 1$	-1	0.1343	0.2052
29	$-158688x^2 - 69865x + 188125$	$[1, -2, -1, 1]$	$2/3x^2$	-1	0.1798	0.3326
30	$-88823x^2 - 188125x + 238032$	$[0, -1, 1, 1]$	$-x$	0	0.2564	0.4523
31	$-357292x^2 + 406199x - 78344$	$[1, 4, 1, 1]$	$-2/3x^2 + 4/3x$	-1	0.4919	0.8907
32	$-247511x^2 - 257990x + 426157$	$[1, 1, 0, 1]$	$2/7x^2 - 1/7x - 2/7$	-1	0.1009	0.1718
33	$1120783x^2 - 484543x - 457594$	$[1, -2, -2, 1]$	$2x^2 - 1$	-1	0.4093	0.5540
34	$1368294x^2 - 226553x - 883751$	$[0, -1, 1, 1]$	$-2/7x^2 - 6/7x + 2/7$	0	0.4297	0.6207
35	$894230x^2 - 1594847x + 711096$	$[1, 4, 2, 1]$	$-2/3x^2 + 1$	-1	0.2750	0.4161
36	$2489077x^2 - 711096x - 1341345$	$[1, 1, 0, 1]$	$-x$	-1	0.5966	0.8186
37	$-420166x^2 + 2963141x - 2305943$	$[1, -2, 0, 1]$	$2/3x^2 - 2/3$	-1	0.1165	0.1894
38	$3383307x^2 - 2305943x - 630249$	$[1, 1, 0, 1]$	$x$	-1	0.1353	0.2028
39	$3803473x^2 - 5269084x + 1675694$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.04026	0.06531
40	$21948587x^2 - 8620472x - 9734725$	$[1, 2, 6, 1]$	$-2x + 1$	-1	0.5458	0.7374

41	$25752060x^2 - 13889556x - 8059031$	$[0, 1, 1, 1]$	$-4/9x^2 - 2/3x + 2/3$	0	0.2102	0.2919
42	$-39641616x^2 - 8059031x + 38628090$	$[1, 6, -3, 1]$	$x$	1	0.4436	0.8832
43	$33811091x^2 - 44458615x + 12775303$	$[1, 2, 1, 1]$	$2/3x^2 - 1/3x - 1$	1	0.4286	0.7118
44	$-5830525x^2 - 52517646x + 51403393$	$[0, 1, 1, 1]$	$-\frac{6}{11}x^2 - 4/11x + \frac{5}{11}$	0	0.1807	0.3559
45	$65393676x^2 - 5830525x - 46687121$	$[1, -1, 0, 1]$	$2/3x^2$	-1	0.1481	0.2248
46	$71224201x^2 + 46687121x - 98090514$	$[0, -1, 1, 1]$	$-x$	0	0.2969	0.5207
47	$136617877x^2 + 40856596x - 144777635$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.07936	0.1563
48	$234650585x^2 - 368997035x + 142506208$	$[2, 5, 3, 1]$	$-2x^2 + 1$	2	0.3025	0.4699
49	$371268462x^2 - 328140439x - 2271427$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x + 2/7$	0	0.2157	0.3842
50	$605919047x^2 - 697137474x + 140234781$	$[0, 1, 2, 1]$	$-2/3x^2 - x + 1$	0	0.3191	0.5731
51	$1070677363x^2 - 325869012x - 559174120$	$[1, 10, 3, 2]$	$1/3 - 2/3x$	1	0.1961	0.2677
52	$512429193x^2 - 1396546375x + 837372255$	$[1, 2, -1, 1]$	$-2/3x^2 + 1$	1	0.1571	0.2348
53	$-45818977x^2 - 2467223738x + 2233918630$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.06018	0.1095
54	$4796990545x^2 - 6935060998x + 2371375561$	$[1, 2, 4, 1]$	$-2x + 1$	1	0.3716	0.5928
55	$4751171568x^2 - 9402284736x + 4605294191$	$[0, 1, 1, 1]$	$-4/9x^2 - 2/3x + 2/3$	0	0.1910	0.2857
56	$-14153456304x^2 + 4605294191x + 7126757352$	$[1, 6, -3, 1]$	$x$	-1	0.3856	0.5242
57	$-18904627872x^2 + 14007578927x + 2521463161$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.08441	0.1323
58	$-32912206799x^2 - 2521463161x + 28356941808$	$[1, 1, 3, 1]$	$-x$	-1	0.2279	0.3984
59	$-51816834671x^2 + 11486115766x + 30878404969$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.06931	0.09733
60	$13032256265x^2 + 166936619779x - 159030446342$	$[2, 10, -7, 1]$	$-2x^2 + 1$	2	0.4221	0.8077
61	$-38784578406x^2 + 178422735545x - 128152041373$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x + 2/7$	0	0.3396	0.5309
62	$-217207313951x^2 + 128152041373x + 58176867609$	$[1, 8, 1, 2]$	$-x$	-1	0.4483	0.6366
63	$230239570216x^2 + 38784578406x - 217207313951$	$[1, 0, -1, 1]$	$2/3x$	-1	0.2991	0.5738
64	$-255991892357x^2 + 306574776918x - 69975173764$	$[1, 1, 0, 1]$	$x^2 - 1$	-1	0.1096	0.1917
65	$-421694562026x^2 - 255991892357x + 562566669275$	$[1, -2, -1, 1]$	$2/3x^2$	-1	0.1952	0.3453
66	$-165702669669x^2 - 562566669275x + 632541843039$	$[0, -1, 1, 1]$	$-x$	0	0.2198	0.4087
67	$-587397231695x^2 - 818558561632x + 1195108512314$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.09628	0.1647
68	$125074571821x^2 + 3208775586260x - 2957300207399$	$[1, 7, -4, 1]$	$2x - 1$	1	0.5423	1.004
69	$-3439936916197x^2 + 943633133453x + 1888592502125$	$[1, 6, 2, 1]$	$2/9x^2 - 2/3x - 1/3$	1	0.4680	0.6443
70	$-4027334147892x^2 + 125074571821x + 3083701014439$	$[1, 0, 1, 1]$	$-2/7x^2 - 6/7x + 2/7$	1	0.4519	0.7172
71	$-3314862344376x^2 + 4152408719713x - 1068707705274$	$[1, 1, 0, 1]$	$-2/3x^2 + 1$	1	0.2263	0.3855
72	$-7467271064089x^2 + 1068707705274x + 4972293516564$	$[1, 1, 0, 1]$	$-x$	1	0.6518	0.9542
73	$2602390540860x^2 - 8179742867605x + 5221116424987$	$[1, -2, 0, 1]$	$2/3x^2 - 2/3$	1	0.1078	0.1626
74	$-10782133408465x^2 + 5221116424987x + 3903585811290$	$[1, 1, 0, 1]$	$x$	1	0.1668	0.2277
75	$-13384523949325x^2 + 13400859292592x - 1317530613697$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1$	0	0.03161	0.06345
76	$-66955290433159x^2 + 16035920519986x + 38836041234278$	$[1, 2, 6, 1]$	$-2x + 1$	1	0.6166	0.8594
77	$-80339814382484x^2 + 29436779812578x + 37518510620581$	$[0, 1, 1, 1]$	$-4/9x^2 - 2/3x + 2/3$	0	0.2483	0.3358
78	$-117858325003065x^2 + 112427990765723x - 6636659098286$	$[1, 8, 0, 1]$	$-x^2 - x + 1$	-1	0.3656	0.6994
79	$8081730808003x^2 - 149946501386304x + 127146380672012$	$[1, 2, -2, 1]$	$\frac{6}{11}x^2 + 4/11x - \frac{5}{11}$	-1	0.1788	0.3078
80	$-190116408577546x^2 - 8081730808003x + 158028232194307$	$[1, 1, 1, 1]$	$-2/3x^2$	-1	0.1520	0.2573

Number:  $\xi = .7869\dots$  Equation:  $2x^3 + 2x^2 + x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.1677	0.3354
2	$-2x^2 - x + 2$	[2, -1, -2, 1]	$-1/3x^2 + 2/3x - 1/6$	-2	0.1016	0.2287
3	$3 - 3x - x^2$	[1, 3, 3, 2]	$-x$	-1	0.1799	0.3799
4	$-3x^2 - 4x + 5$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.1354	0.2707
5	$9x^2 - 2x - 4$	[1, -5, 2, 1]	$x^2 - 1/2$	1	0.05229	0.06520
6	$-31x^2 - 15x + 31$	[1, 4, -2, 1]	$2x - 1$	1	0.3560	0.7954
7	$-4x^2 + 40x - 29$	[1, -7, -2, 1]	$-2/7x^2 + 4/7x + 1/7$	1	0.2463	0.3783
8	$44x^2 - 27x - 6$	[1, -1, -1, 1]	$x$	1	0.2346	0.3272
9	$48x^2 - 67x + 23$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.1473	0.2402
10	$-115x^2 - x + 72$	[1, -1, -2, 1]	$x$	1	0.3414	0.4753
11	$-163x^2 + 66x + 49$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.1857	0.2330
12	$-90x^2 - 163x + 184$	[1, 2, 2, 1]	$1/2x^2 + 1/4$	1	0.1324	0.2681
13	$73x^2 - 229x + 135$	[0, -1, 1, 1]	$-x$	0	0.1614	0.2339
14	$-17x^2 - 392x + 319$	[0, -1, 2, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.1281	0.2132
15	$-711x^2 - 358x + 722$	[1, 2, 3, 1]	$-x^2 + 1/2$	-1	0.05181	0.1148
16	$2160x^2 - 2128x + 337$	[2, 7, -3, 1]	$2x^2 - 1$	-2	0.1106	0.2206
17	$-4288x^2 - 743x + 3240$	[1, 9, -1, 2]	$x$	-1	0.3430	0.5491
18	$3545x^2 + 5384x - 6432$	[1, -2, -2, 1]	$x$	-1	0.6073	1.217
19	$6448x^2 - 1385x - 2903$	[1, -1, 0, 1]	$-4/9x^2 + 2/9x + 4/9$	-1	0.2100	0.2623
20	$9351x^2 - 8154x + 626$	[0, -1, 2, 1]	$-x^2 - x + 1/2$	0	0.4002	0.7063
21	$-7833x^2 - 6127x + 9672$	[1, -1, 0, 1]	$-\frac{6}{13}x^2 - 2/13x - \frac{6}{13}$	-1	0.3718	0.7649
22	$1518x^2 - 14281x + 10298$	[0, 1, 1, 1]	$1/3x^2 - 2/3x + 1/6$	0	0.1228	0.1881
23	$15799x^2 - 9539x - 2277$	[1, 1, 0, 1]	$-x$	1	0.1183	0.1639
24	$17317x^2 - 23820x + 8021$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.07282	0.1196
25	$-31841x^2 - 58454x + 65716$	[1, 5, -2, 1]	$-x^2 + 1/2$	-1	0.06609	0.1339
26	$21385x^2 - 221727x + 161239$	[1, 4, 2, 1]	$-2x + 1$	-1	0.4317	0.6641
27	$-248340x^2 + 10456x + 145555$	[1, 7, -2, 1]	$-2/7x^2 + 4/7x + 1/7$	-1	0.2251	0.3028
28	$-258796x^2 - 269725x + 372510$	[1, 1, 1, 1]	$-x$	-1	0.3985	0.7998
29	$10929x^2 - 501908x + 388194$	[1, -1, 1, 1]	$-x$	-1	0.5693	0.9102
30	$-259269x^2 + 512364x - 242639$	[1, 0, -1, 1]	$2/9x^2 + \frac{8}{9}x - 2/9$	-1	0.3648	0.5400
31	$-507136x^2 - 259269x + 518065$	[1, 1, 1, 1]	$1/2x^2 + 1/4$	-1	0.2087	0.4610
32	$-247867x^2 - 771633x + 760704$	[0, -1, 1, 1]	$-x$	0	0.3644	0.7561
33	$777334x^2 - 755003x + 112768$	[1, -1, -1, 1]	$1/3x^2 - 2/3x + 1/6$	-1	0.05604	0.1101
34	$-1532337x^2 - 275899x + 1166001$	[1, 1, -1, 1]	$x$	-1	0.1713	0.2761
35	$-2309671x^2 + 479104x + 1053233$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x + 2/3$	0	0.1054	0.1319
36	$574129x^2 - 5098446x + 3656546$	[1, 5, 2, 1]	$x^2 - 1/2$	-1	0.06125	0.09353
37	$-11919279x^2 + 11837409x - 1934159$	[1, 4, -2, 1]	$2x - 1$	-1	0.1921	0.3866
38	$-12493408x^2 + 16935855x - 5590705$	[0, -1, 1, 1]	$-4/7x^2 - 6/7x + 2/7$	0	0.2880	0.4761
39	$17509984x^2 + 12493408x - 20674271$	[1, -7, -2, 1]	$-1/2x^2 - 1/4$	-1	0.2402	0.5002
40	$-24412687x^2 + 28773264x - 7524864$	[1, 1, 0, 1]	$x^2$	-1	0.2881	0.5152

41	$-41922671x^2 + 16279856x + 13149407$	$[0, -1, 1, 1]$	$-2/9x^2 - \frac{8}{9}x + 2/9$	0	0.3760	0.4697
42	$22526560x^2 + 41922671x - 46939247$	$[1, 2, 0, 1]$	$-1/2x^2 - 1/4$	-1	0.2638	0.5350
43	$-19396111x^2 + 58202527x - 33789840$	$[0, 1, 1, 1]$	$-x$	0	0.3192	0.4622
44	$-88861918x^2 + 3130449x + 52563790$	$[1, 1, -1, 1]$	$1/3x^2 - 2/3x + 1/6$	1	0.1127	0.1523
45	$91992367x^2 + 96994749x - 133292877$	$[1, 1, -1, 1]$	$x$	1	0.1996	0.4004
46	$180854285x^2 + 93864300x - 185856667$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.1051	0.2314
47	$-279720967x^2 + 267844270x - 37556644$	$[1, 5, 2, 1]$	$x^2 - 1/2$	1	0.02839	0.0549
48	$1374851441x^2 - 63236591x - 801606257$	$[1, 4, -2, 1]$	$2x - 1$	1	0.3935	0.5281
49	$1654572408x^2 - 331080861x - 764049613$	$[0, -1, 1, 1]$	$-4/7x^2 - 6/7x + 2/7$	0	0.4232	0.5304
50	$-610801828x^2 - 1654572408x + 1680252355$	$[1, -7, -2, 1]$	$-1/2x^2 - 1/4$	1	0.2443	0.5134
51	$-1043770580x^2 + 1985653269x - 916202742$	$[0, -1, -1, 1]$	$x$	0	0.2684	0.3998
52	$3029423849x^2 - 394317452x - 1565655870$	$[1, 1, 0, 1]$	$x$	1	0.4917	0.6314
53	$432968752x^2 - 3640225677x + 2596455097$	$[1, -1, 0, 1]$	$-4/9x^2 + 2/9x + 4/9$	1	0.2443	0.3720
54	$-4073194429x^2 + 2379970721x + 649453128$	$[1, -1, 0, 1]$	$x$	1	0.2407	0.3290
55	$-4506163181x^2 + 6020196398x - 1947001969$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.1424	0.2370
56	$6236680774x^2 + 4506163181x - 7408019192$	$[1, -2, -1, 1]$	$-1/2x^2 - 1/4$	1	0.1206	0.2508
57	$1730517593x^2 + 10526359579x - 9355021161$	$[0, 1, 1, 1]$	$-x$	0	0.1917	0.3483
58	$7967198367x^2 + 15032522760x - 16763040353$	$[0, 1, 2, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.1316	0.2672
59	$-31795563113x^2 + 901873974x + 18979506766$	$[1, 2, -3, 1]$	$x^2 - 1/2$	1	0.05647	0.0766
60	$97190437287x^2 + 68852702671x - 114366196105$	$[1, 4, -2, 1]$	$2x - 1$	1	0.4192	0.8739
61	$36155265584x^2 - 128986000400x + 79112804495$	$[1, -7, -2, 1]$	$-2/7x^2 + 4/7x + 1/7$	1	0.2216	0.3224
62	$-165141265984x^2 + 61035171703x + 54232898376$	$[1, -1, -1, 1]$	$x$	1	0.2859	0.3558
63	$-201296531568x^2 + 190021172103x - 24879906119$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.1150	0.2193
64	$391317703671x^2 + 75768359665x - 301944797352$	$[1, -1, -2, 1]$	$x$	1	0.3420	0.5585
65	$592614235239x^2 - 114252812438x - 277064891233$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.2124	0.2667
66	$214901078222x^2 + 592614235239x - 599416508566$	$[1, 2, 2, 1]$	$1/2x^2 + 1/4$	1	0.1216	0.2561
67	$-377713157017x^2 + 706867047677x - 322351617333$	$[0, -1, 1, 1]$	$-x$	0	0.1331	0.1988
68	$-162812078795x^2 + 1299481282916x - 921768125899$	$[0, -1, 2, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.1218	0.1850
69	$2221249408815x^2 + 1625105440506x - 2654324105516$	$[1, 2, 3, 1]$	$-x^2 + 1/2$	-1	0.06059	0.1257
70	$-8558859092044x^2 + 5634786754248x + 865892200589$	$[2, 7, -3, 1]$	$2x^2 - 1$	-2	0.1502	0.2169
71	$14193645846292x^2 + 5145321746611x - 12838288638066$	$[1, 9, -1, 2]$	$x$	-1	0.3251	0.6339
72	$13704180838655x^2 - 20424576568849x + 7586287930783$	$[1, -3, -1, 1]$	$-2/3x^2 + 1/3x + 2/3$	-1	0.3475	0.5519
73	$-22752504938336x^2 + 489465007637x + 13704180838655$	$[1, -1, 0, 1]$	$2/3x$	-1	0.2262	0.3084
74	$23241969945973x^2 + 25080433307823x - 34128757407504$	$[1, -1, -1, 1]$	$x$	-1	0.4006	0.8027
75	$13214715831018x^2 - 45994474884309x + 28010864499632$	$[1, -1, -1, 1]$	$-1/3x^2 + 2/3x - 1/6$	-1	0.1102	0.1602
76	$-59209190715327x^2 + 21403506584123x + 19822073746527$	$[1, -1, -1, 1]$	$x$	-1	0.1438	0.1787
77	$-72423906546345x^2 + 67397981468432x - 8188790753105$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 2/3$	0	0.05824	0.1094
78	$75586772221537x^2 + 212245794561122x - 213827227398718$	$[1, -5, -2, 1]$	$-x^2 + 1/2$	-1	0.06054	0.1278
79	$-197731272457633x^2 + 715487021580095x - 440587544063329$	$[1, 4, 2, 1]$	$-2x + 1$	-1	0.3890	0.5662
80	$852146043919680x^2 + 122144500236096x - 623804294417473$	$[1, 7, -2, 1]$	$-2/7x^2 + 4/7x + 1/7$	-1	0.2293	0.3569

Number:  $\xi = .6914\dots$  Equation:  $2x^3 + 2x^2 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-2/9x^2 + 4/9x - 5/9$	-1	0.1695	0.5084
2	$-2x^2 + 1$	$[1, -1, 1, 1]$	$-4/5x^2 - 2/5x + 2/5$	-1	0.1756	0.2195
3	$-2x^2 - 3x + 3$	$[1, 3, 0, 1]$	$-x$	-1	0.2731	0.6677
4	$-4x^2 - 3x + 4$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.2167	0.5553
5	$-5x^2 + 2x + 1$	$[1, 3, -1, 1]$	$-2/3x^2 - 1/3x$	1	0.1860	0.2232
6	$-9x^2 - x + 5$	$[0, 1, 1, 1]$	$-2/5x^2 - 6/5x + 1/5$	0	0.4946	0.6534
7	$4x^2 - 10x + 5$	$[1, 1, -2, 1]$	$4/11x^2 - 2/11x - 4/11$	-1	0.1927	0.2717
8	$-14x^2 + x + 6$	$[1, 1, 0, 1]$	$x$	-1	0.2611	0.3104
9	$-18x^2 + 11x + 1$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.1926	0.2652
10	$-29x^2 - 19x + 27$	$[1, 2, 2, 1]$	$-x$	-1	0.3457	0.7938
11	$-3x^2 + 31x - 20$	$[1, 1, -1, 1]$	$2/3x + 1/3$	-1	0.3138	0.4473
12	$-21x^2 + 42x - 19$	$[1, 0, 1, 1]$	$-2/5x^2 - 6/5x + 1/5$	-1	0.4728	0.6878
13	$-47x^2 - 8x + 28$	$[1, -1, 1, 1]$	$4/11x^2 - 2/11x + \frac{7}{11}$	-1	0.4053	0.5608
14	$-26x^2 - 50x + 47$	$[0, -1, 1, 1]$	$-2/3x$	0	0.2114	0.4554
15	$-24x^2 + 73x - 39$	$[1, 1, 0, 1]$	$x$	-1	0.3116	0.4342
16	$-97x^2 + 15x + 36$	$[1, 1, 1, 1]$	$-x$	-1	0.3804	0.4419
17	$-121x^2 + 88x - 3$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.2642	0.4041
18	$-99x^2 - 108x + 122$	$[1, -1, 1, 1]$	$-1/3 - 2/3x$	1	0.2133	0.5209
19	$-119x^2 + 211x - 89$	$[1, 1, -1, 1]$	$-2/5x^2 + 4/5x + 1/5$	1	0.3585	0.5363
20	$-220x^2 - 20x + 119$	$[1, 1, 0, 1]$	$-2/3x$	1	0.1797	0.2337
21	$-200x^2 - 339x + 330$	$[1, -1, 1, 1]$	$-x$	1	0.2949	0.6771
22	$-420x^2 - 359x + 449$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.2309	0.5806
23	$-559x^2 + 171x + 149$	$[1, 2, 0, 1]$	$-2/3x^2 - 1/3x$	-1	0.1966	0.2289
24	$-979x^2 - 188x + 598$	$[0, 1, 1, 1]$	$-2/5x^2 - 6/5x + 1/5$	0	0.4949	0.6979
25	$498x^2 - 1040x + 481$	$[1, 1, -2, 1]$	$4/11x^2 - 2/11x - 4/11$	1	0.1762	0.2543
26	$-1538x^2 - 17x + 747$	$[1, 1, 0, 1]$	$x$	1	0.2665	0.3294
27	$-2036x^2 + 1023x + 266$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.2084	0.2646
28	$-3059x^2 - 2302x + 3054$	$[1, 2, 2, 1]$	$-x$	1	0.3253	0.8337
29	$-515x^2 + 3308x - 2041$	$[1, 1, -1, 1]$	$2/3x + 1/3$	1	0.3021	0.4245
30	$-2551x^2 + 4331x - 1775$	$[1, 0, 1, 1]$	$-2/5x^2 - 6/5x + 1/5$	1	0.4252	0.6441
31	$-5095x^2 - 1279x + 3320$	$[1, -1, 1, 1]$	$4/11x^2 - 2/11x + \frac{7}{11}$	1	0.4028	0.5991
32	$-2544x^2 - 5610x + 5095$	$[0, -1, 1, 1]$	$-2/3x$	0	0.2251	0.4570
33	$-3066x^2 + 7639x - 3816$	$[1, 1, 0, 1]$	$x$	1	0.2885	0.4070
34	$-10705x^2 + 750x + 4599$	$[1, 1, 1, 1]$	$-x$	1	0.3918	0.4660
35	$522x^2 - 13249x + 8911$	$[1, -1, 0, 1]$	$2/9x^2 - 4/9x - 4/9$	1	0.3874	0.5632
36	$-10183x^2 - 12499x + 13510$	$[0, 1, 1, 1]$	$-2/3x^2 - 1/3x$	0	0.2212	0.5362
37	$-14293x^2 + 21638x - 8128$	$[1, 1, -1, 1]$	$-2/5x^2 + 4/5x + 1/5$	-1	0.3188	0.5030
38	$-23954x^2 - 4110x + 14293$	$[1, 1, 1, 1]$	$-2/3x$	-1	0.1801	0.2495
39	$-19844x^2 - 38247x + 35931$	$[1, -1, 1, 1]$	$-x$	-1	0.3175	0.6832
40	$-43798x^2 - 42357x + 50224$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.2443	0.6039

41	$-62201x^2 + 13418x + 20458$	[1, 2, 0, 1]	$-2/3x^2 - 1/3x$	1	0.2058	0.2377
42	$-105999x^2 - 28939x + 70682$	[0, 1, 1, 1]	$-2/5x^2 - 6/5x + 1/5$	0	0.4907	0.7454
43	$60760x^2 - 107440x + 45239$	[1, 1, -2, 1]	$4/11x^2 - 2/11x - 4/11$	-1	0.1590	0.2381
44	$-168200x^2 - 15521x + 91140$	[1, 1, 0, 1]	$x$	-1	0.2695	0.3509
45	$-228960x^2 + 91919x + 45901$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x + 1/3$	0	0.2229	0.2678
46	$-320879x^2 - 274861x + 343440$	[1, 2, 2, 1]	$-x$	-1	0.3467	0.8715
47	$-76281x^2 + 351259x - 206399$	[1, 1, -1, 1]	$2/3x + 1/3$	-1	0.2881	0.4012
48	$-305241x^2 + 443178x - 160498$	[1, 0, 1, 1]	$-2/5x^2 - 6/5x + 1/5$	-1	0.3765	0.6044
49	$-549839x^2 - 182942x + 389341$	[1, -1, 1, 1]	$4/11x^2 - 2/11x + \frac{7}{11}$	-1	0.3967	0.6395
50	$-244598x^2 - 626120x + 549839$	[0, -1, 1, 1]	$-2/3x$	0	0.2371	0.4561
51	$-381522x^2 + 794437x - 366897$	[1, 1, 0, 1]	$x$	-1	0.2639	0.3811
52	$-1175959x^2 - 14625x + 572283$	[1, 1, 1, 1]	$-x$	-1	0.3998	0.4946
53	$136924x^2 - 1420557x + 916736$	[1, -1, 0, 1]	$2/9x^2 - 4/9x - 4/9$	-1	0.3766	0.5369
54	$1039035x^2 + 1435182x - 1489019$	[0, -1, -1, 1]	$2/3x^2 + 1/3x$	0	0.2272	0.5490
55	$-1694405x^2 + 2200369x - 711350$	[1, 1, -1, 1]	$2/5x^2 - 4/5x - 1/5$	-1	0.2788	0.4733
56	$-2596516x^2 - 655370x + 1694405$	[1, -1, 1, 1]	$-2/3x$	-1	0.1790	0.2666
57	$1941146x^2 + 4290921x - 3894774$	[1, 1, -1, 1]	$x$	-1	0.3379	0.6855
58	$-4946291x^2 + 5180550x - 1217314$	[1, 2, 1, 1]	$2/3x^2 - 1/3x + 2/3$	-1	0.3719	0.7314
59	$-4537662x^2 - 4946291x + 5589179$	[1, -1, 0, 1]	$2/5x^2 + 2/5$	-1	0.2559	0.6250
60	$6887437x^2 - 889629x - 2677460$	[1, -1, 0, 1]	$2/3x^2 + 1/3x$	-1	0.2134	0.2492
61	$-7296066x^2 + 11016470x - 4129033$	[1, -1, -1, 1]	$4/5x^2 + 2/5x - 2/5$	-1	0.1414	0.2233
62	$-18312536x^2 - 3167033x + 10944099$	[1, -2, 0, 1]	$-x$	-1	0.2702	0.3747
63	$-25608602x^2 + 7849437x + 6815066$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x + 1/3$	0	0.2358	0.2747
64	$10463099x^2 - 37106072x + 20653738$	[1, -3, 1, 1]	$2/3x^2 + 1/3x$	1	0.2719	0.3777
65	$36071701x^2 - 44955509x + 13838672$	[0, -1, 1, 1]	$-2/5x^2 - 6/5x + 1/5$	0	0.3276	0.5696
66	$-59066641x^2 - 24574231x + 45227969$	[1, 2, 1, 1]	$-4/11x^2 + 2/11x - \frac{7}{11}$	1	0.3871	0.6811
67	$-22994940x^2 - 69529740x + 59066641$	[0, 1, 1, 1]	$-2/3x$	0	0.2472	0.4527
68	$46534800x^2 - 82061581x + 34492410$	[1, 1, 0, 1]	$-x$	-1	0.2381	0.3568
69	$-128596381x^2 - 12042390x + 69802200$	[1, 1, -1, 1]	$x$	-1	0.4043	0.5270
70	$23539860x^2 - 151591321x + 93559051$	[1, 1, 0, 1]	$2/9x^2 - 4/9x - 4/9$	-1	0.3627	0.5096
71	$105056521x^2 + 163633711x - 163361251$	[0, -1, -1, 1]	$2/3x^2 + 1/3x$	0	0.2321	0.5590
72	$198671041x^2 - 221610512x + 58249261$	[1, -1, 1, 1]	$-2/5x^2 + 4/5x + 1/5$	-1	0.2392	0.4479
73	$-280187702x^2 - 93614520x + 198671041$	[1, -1, -1, 1]	$2/3x$	-1	0.1762	0.2845
74	$186573182x^2 + 478858743x - 420281553$	[1, -1, -1, 1]	$x$	-1	0.3559	0.6841
75	$572473263x^2 - 513240215x + 81188732$	[1, -2, -1, 1]	$-2/3x^2 + 1/3x - 2/3$	-1	0.3840	0.7004
76	$292285561x^2 - 606854735x + 279859773$	[1, 0, 1, 1]	$-\frac{8}{15}x^2 - 2/3x - 1/5$	-1	0.3952	0.5710
77	$466760884x^2 + 572473263x - 618952594$	[1, 1, -1, 1]	$2/9x^2 - 4/9x - 4/9$	-1	0.2654	0.6433
78	$-759046445x^2 + 34381472x + 339092821$	[0, -1, -1, 1]	$2/3x^2 + 1/3x$	0	0.2192	0.2634
79	$864758824x^2 - 1120094950x + 361048505$	[1, 1, 0, 1]	$4/5x^2 + 2/5x - 2/5$	-1	0.1236	0.2102
80	$1984853774x^2 + 503710319x - 1297138236$	[1, -2, 0, 1]	$-x$	-1	0.2684	0.4003

Number:  $\xi = .6063\dots$  Equation:  $2x^3 + 2x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$2/3x - 1/3$	-1	0.02606	0.07817
2	$-5x^2 + 3x$	[3, -5, 0, 1]	$-2x^2$	-3	0.4790	0.6514
3	$x^2 + 6x - 4$	[1, -12, 2, 3]	$-1/3x^2 - 1/6$	-1	0.1995	0.2937
4	$-7x^2 - 4x + 5$	[1, 1, -1, 1]	$2/3x^2$	-1	0.06654	0.1222
5	$-16x^2 + 13x - 2$	[1, 3, 2, 1]	$-x^2 + 1/2$	-1	0.04602	0.07712
6	$29x^2 + 22x - 24$	[1, -4, 0, 1]	$x$	-1	0.09166	0.2072
7	$45x^2 + 9x - 22$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.1433	0.1833
8	$74x^2 + 31x - 46$	[0, -1, 2, 1]	$-1/2x^2 - x + 1/4$	0	0.2093	0.3269
9	$76x^2 - 117x + 43$	[1, -7, -1, 1]	$-2/3x^2$	1	0.1282	0.1997
10	$193x^2 + 71x - 114$	[1, 2, 0, 1]	$-x$	1	0.2116	0.3140
11	$269x^2 - 46x - 71$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.2669	0.2933
12	$-353x^2 - 416x + 382$	[1, 2, -3, 1]	$-1/4x^2 + 1/2x - 7/8$	-1	0.4236	1.086
13	$378x^2 - 437x + 126$	[1, 2, 1, 1]	$\frac{6}{13}x^2 - 2/13x + 3/13$	-1	0.1436	0.2630
14	$-815x^2 - 441x + 567$	[1, 2, -1, 1]	$x$	-1	0.3028	0.5380
15	$-1193x^2 - 4x + 441$	[0, -1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.4213	0.4789
16	$-672x^2 + 1336x - 563$	[1, -3, -1, 1]	$-1/6x^2 + 1/3x + 3/4$	-1	0.4707	0.6733
17	$-521x^2 - 1340x + 1004$	[0, 1, -1, 1]	$1/3x^2$	0	0.05802	0.09937
18	$-1117x^2 + 4911x - 2567$	[1, -2, 4, 1]	$2x - 1$	1	0.1657	0.2196
19	$4613x^2 + 7145x - 6028$	[1, -8, -1, 1]	$-2/3x^2$	1	0.08597	0.1830
20	$13173x^2 - 6694x - 784$	[1, -4, 2, 1]	$-x^2 - 1/2$	1	0.2535	0.3199
21	$17786x^2 + 451x - 6812$	[0, 1, 1, 1]	$-2/9x^2 - 2/3x + 1/3$	0	0.07052	0.08091
22	$17335x^2 + 33491x - 26679$	[1, 4, 0, 1]	$-x$	-1	0.1516	0.2884
23	$35121x^2 + 33942x - 33491$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.1082	0.3078
24	$52456x^2 + 67433x - 60170$	[0, 1, 2, 1]	$-1/2x^2 - x + 1/4$	0	0.2155	0.5176
25	$87577x^2 + 101375x - 93661$	[0, 2, 3, 1]	$-2/3x^2 - x$	0	0.4148	1.078
26	$102554x^2 - 37479x - 14977$	[1, 6, -1, 1]	$-\frac{4}{13}x^2 + 2/13x + \frac{4}{13}$	1	0.1222	0.1411
27	$140033x^2 + 168808x - 153831$	[1, 1, 0, 1]	$-x$	1	0.2007	0.5055
28	$-220085x^2 + 213812x - 48730$	[1, -3, 0, 1]	$1/3x^2 - 2/3x - 1/2$	1	0.2667	0.5315
29	$242587x^2 + 131329x - 168808$	[1, 1, 0, 1]	$2/13x^2 + \frac{10}{13}x + \frac{4}{13}$	1	0.2691	0.4784
30	$-80052x^2 + 382620x - 202561$	[1, 1, 0, 1]	$1/4x^2 - 1/2x - 1/8$	1	0.2251	0.2981
31	$-462672x^2 + 82483x + 120078$	[1, -1, 0, 1]	$-x$	1	0.1996	0.2194
32	$-542724x^2 + 465103x - 82483$	[0, 1, 1, 1]	$-2/3x^2 - 2/3x$	0	0.1783	0.3134
33	$545155x^2 + 814086x - 694008$	[1, 2, -1, 1]	$-1/2x^2 - 3/4$	-1	0.3747	0.8150
34	$-1005396x^2 + 547586x + 37595$	[1, 1, 0, 1]	$2/3x^2 + 1/3$	-1	0.3305	0.4291
35	$2431x^2 + 1279189x - 776491$	[1, 1, 0, 1]	$-1/3x^2$	-1	0.06557	0.08973
36	$2551085x^2 - 2839464x + 783784$	[1, -2, -2, 1]	$2x - 1$	-1	0.06870	0.1294
37	$1565137x^2 + 7941634x - 5390549$	[1, 8, 1, 1]	$2/3x^2$	-1	0.1317	0.1975
38	$-13332183x^2 - 3246223x + 6869471$	[1, -4, -2, 1]	$x^2 + 1/2$	-1	0.3221	0.4266
39	$14897320x^2 + 11187857x - 12260020$	[0, 1, -1, 1]	$2/9x^2 + 2/3x - 1/3$	0	0.06135	0.1375
40	$-3709463x^2 - 34606000x + 22345980$	[1, -4, 0, 1]	$x$	1	0.2007	0.2867



41	$-18606783x^2 - 45793857x + 34606000$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x$	0	0.2282	0.3962
42	$-76690394x^2 + 44632492x + 1131631$	$[1, -5, -3, 1]$	$-1/2x^2 + x + 1/4$	1	0.4305	0.5763
43	$-22316246x^2 - 80399857x + 56951980$	$[1, 1, 0, 1]$	$-1/2 - 1/2x$	1	0.3800	0.5999
44	$58083611x^2 - 90426349x + 33474369$	$[1, -1, 0, 1]$	$-x$	1	0.2914	0.4516
45	$-99006640x^2 - 35767365x + 58083611$	$[1, 1, 0, 1]$	$2/3x$	1	0.1412	0.2083
46	$-63239275x^2 - 206593571x + 148509960$	$[1, 1, 1, 1]$	$-x$	1	0.3728	0.6004
47	$192857616x^2 - 225485190x + 65817107$	$[1, -2, 1, 1]$	$1/3x^2 - 2/3x + 1/2$	1	0.09696	0.1762
48	$-418342806x^2 - 223469317x + 289286424$	$[1, 2, -1, 1]$	$x$	1	0.2024	0.3569
49	$-611200422x^2 + 2015873x + 223469317$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x$	0	0.2805	0.3180
50	$194873489x^2 + 916800633x - 627514209$	$[1, -3, -2, 1]$	$-1/2x^2 - 3/4$	1	0.5893	0.8920
51	$-416326933x^2 + 918816506x - 404044892$	$[0, 1, 1, 1]$	$1/3 - 2/3x$	0	0.04195	0.05868
52	$-3086613811x^2 + 477925491x + 844935907$	$[2, 4, 1, 1]$	$-2x + 1$	-2	0.1007	0.1106
53	$-1273544881x^2 + 6651153113x - 3564539302$	$[1, 14, -1, 2]$	$-2/3x^2$	-1	0.1146	0.1517
54	$-10215692415x^2 - 10471787756x + 10104777340$	$[1, 4, -2, 1]$	$x^2 + 1/2$	-1	0.2464	0.7103
55	$-8942147534x^2 - 17122940869x + 13669316642$	$[0, -1, 1, 1]$	$-2/9x^2 - 2/3x + 1/3$	0	0.1005	0.1920
56	$-8180793335x^2 + 27082537943x - 13413221301$	$[1, 4, 0, 1]$	$x$	-1	0.1525	0.2038
57	$761354199x^2 + 44205478812x - 27082537943$	$[0, -1, 1, 1]$	$-2/3x^2 - 2/3x$	0	0.2637	0.3628
58	$-7419439136x^2 + 71288016755x - 40495759244$	$[0, -1, 2, 1]$	$-1/2x^2 - x + 1/4$	0	0.3705	0.4940
59	$-78707455891x^2 + 29366600540x + 11129158704$	$[1, 4, 4, 1]$	$-x$	1	0.2738	0.3174
60	$72049370954x^2 + 86126895027x - 78707455891$	$[1, 1, -1, 1]$	$2/3x$	1	0.1325	0.3359
61	$-164834350918x^2 + 130021217835x - 18237441836$	$[1, 2, 0, 1]$	$x^2 + 1/2$	1	0.4212	0.6884
62	$14077524073x^2 - 186781512322x + 108074056431$	$[1, -1, -1, 1]$	$4/9x^2 + 1/3x + 1/3$	1	0.3779	0.5066
63	$222806197799x^2 + 142887189514x - 168544070486$	$[1, -1, -1, 1]$	$1/3x^2 - 2/3x - 1/2$	1	0.4203	0.8337
64	$236883721872x^2 - 43894322808x - 60470014055$	$[0, 1, 1, 1]$	$-\frac{6}{13}x^2 - \frac{4}{13}x + 1/13$	0	0.1327	0.1459
65	$280778044680x^2 + 415795596863x - 355325582808$	$[1, 0, 2, 1]$	$-x$	-1	0.2479	0.5420
66	$517661766552x^2 + 371901274055x - 415795596863$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x$	0	0.2495	0.5392
67	$652679318735x^2 - 404591375773x + 5371470157$	$[1, 3, -1, 1]$	$-1/2x^2 + 1/4$	1	0.02625	0.03634
68	$2767220707751x^2 + 1542703640118x - 1952666486048$	$[2, 3, 1, 1]$	$-2x + 1$	2	0.1003	0.1815
69	$-3252653653361x^2 + 3991737775384x - 1224517067633$	$[1, -15, 1, 2]$	$2/3x^2$	1	0.05117	0.08996
70	$5216254843017x^2 + 13749698735467x - 10254328609301$	$[1, 4, 2, 1]$	$-x^2 - 1/2$	1	0.5268	0.8956
71	$15777835321195x^2 - 14424247461418x + 2945401784484$	$[1, -4, 0, 1]$	$-4/9x^2 + 2/3x - 1/3$	1	0.06417	0.1200
72	$-13814234131539x^2 + 32165683972269x - 14424247461418$	$[1, 1, -1, 1]$	$2/3x^2 + 2/3x$	1	0.1732	0.2399
73	$-29592069452734x^2 + 46589931433687x - 17369649245902$	$[0, -1, 1, 1]$	$-1/2x^2 - x + 1/4$	0	0.1962	0.3027
74	$76182000886421x^2 + 27018454933199x - 44388104179101$	$[1, 8, 4, 1]$	$x$	1	0.3181	0.4661
75	$32775697302148x^2 + 105774070339155x - 76182000886421$	$[1, 1, 1, 1]$	$-2/3x$	1	0.2479	0.4003
76	$-72998373037007x^2 + 125345546839643x - 49163545953222$	$[1, -1, 1, 1]$	$-x$	1	0.2111	0.3151
77	$214731768527724x^2 + 113221048771866x - 147588559998721$	$[1, 2, -1, 1]$	$-1/3x^2 + 2/3x - 1/2$	1	0.1352	0.2367
78	$101510719755858x^2 + 469686212790307x - 322097652791586$	$[1, 2, 1, 1]$	$-x$	1	0.3923	0.5951
79	$368175493034449x^2 - 474363732425373x + 152266079633787$	$[1, 3, -2, 1]$	$x$	1	0.2426	0.4138
80	$684417981318031x^2 + 108543529136800x - 317420133156520$	$[1, 1, 1, 1]$	$1/3 - 2/3x$	1	0.03580	0.04440

Number:  $\xi = .4603\dots$  Equation:  $2x^3 + 2x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$-x^2 - x + 1/2$	0	0.1460	0.1825
2	$-3x^2 - 3x + 2$	$[2, -3, -3, 1]$	$x$	-2	0.1513	0.3697
3	$4x^2 - 4x + 1$	$[1, 5, 1, 2]$	$1/2x^2 - 1/2x - 1/4$	-1	0.1006	0.2075
4	$8x^2 + 5x - 4$	$[1, -2, 0, 1]$	$-x$	-1	0.1853	0.3040
5	$9x^2 - 15x + 5$	$[1, 3, 0, 1]$	$-x^2 - 1/2$	-1	0.4638	0.6822
6	$3x^2 + 16x - 8$	$[1, 1, -1, 1]$	$\frac{6}{11}x^2 + 4/11x + 4/11$	-1	0.3412	0.4385
7	$17x^2 - 10x + 1$	$[1, 1, 0, 1]$	$-1/2x^2 + 1/2x - 3/4$	-1	0.2410	0.3253
8	$20x^2 + 6x - 7$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.1995	0.2419
9	$-14x^2 - 37x + 20$	$[1, -2, -1, 1]$	$x$	1	0.3143	0.4512
10	$23x^2 - 41x + 14$	$[1, 1, 1, 1]$	$-x$	1	0.1777	0.2543
11	$71x^2 + 39x - 33$	$[1, -2, 1, 1]$	$1/2x^2 - 1/2x + 3/4$	1	0.3334	0.5061
12	$48x^2 + 80x - 47$	$[0, -1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.2531	0.4316
13	$32x^2 - 119x + 48$	$[1, 2, 0, 1]$	$x$	1	0.2578	0.3184
14	$151x^2 - 32$	$[1, 1, 1, 1]$	$-x$	1	0.1911	0.1997
15	$-16x^2 + 318x - 143$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.3172	0.3821
16	$334x^2 - 119x - 16$	$[1, 2, 0, 1]$	$x$	1	0.1611	0.1819
17	$453x^2 + 517x - 334$	$[1, 2, 1, 1]$	$-x$	1	0.1777	0.3882
18	$-684x^2 + 556x - 111$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.1164	0.1963
19	$1240x^2 + 915x - 684$	$[1, 2, 0, 1]$	$x$	1	0.1761	0.3255
20	$-1599x^2 + 2185x - 667$	$[1, 3, 0, 1]$	$x^2 + 1/2$	1	0.3892	0.6339
21	$-325x^2 - 2544x + 1240$	$[1, -1, -1, 1]$	$\frac{6}{11}x^2 + 4/11x + 4/11$	1	0.3412	0.4278
22	$2839x^2 - 1270x - 17$	$[1, -1, 0, 1]$	$1/2x^2 - 1/2x + 3/4$	1	0.2659	0.3191
23	$3164x^2 + 1274x - 1257$	$[0, -1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.1975	0.2607
24	$-4113x^2 + 5999x - 1890$	$[1, -1, -1, 1]$	$x^2$	1	0.1504	0.2361
25	$11057x^2 + 7281x - 5695$	$[2, 3, 1, 1]$	$-1/2x^2 + 1/2x - 3/4$	2	0.3198	0.5434
26	$6944x^2 + 13280x - 7585$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.2759	0.4413
27	$6336x^2 - 18001x + 6944$	$[1, -5, -1, 2]$	$x$	-1	0.2334	0.2970
28	$24337x^2 + 2560x - 6336$	$[1, 1, 1, 1]$	$-x$	-1	0.1964	0.2118
29	$-5728x^2 + 49282x - 21473$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	-1	0.3013	0.3626
30	$55010x^2 - 12881x - 5728$	$[1, 2, 0, 1]$	$x$	-1	0.1728	0.1842
31	$67891x^2 + 88243x - 55010$	$[1, 2, 1, 1]$	$-x$	-1	0.2047	0.4055
32	$-115748x^2 + 75044x - 10017$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	-1	0.1318	0.1882
33	$190792x^2 + 163605x - 115748$	$[1, 2, 0, 1]$	$x$	-1	0.1649	0.3468
34	$-279353x^2 + 313375x - 85061$	$[1, 3, 0, 1]$	$x^2 + 1/2$	-1	0.3166	0.5916
35	$-27187x^2 - 401936x + 190792$	$[1, -1, -1, 1]$	$\frac{6}{11}x^2 + 4/11x + 4/11$	-1	0.3368	0.4143
36	$470145x^2 - 149770x - 30687$	$[1, -1, 0, 1]$	$1/2x^2 - 1/2x + 3/4$	-1	0.2884	0.3189
37	$497332x^2 + 252166x - 221479$	$[0, -1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.1930	0.2809
38	$-722311x^2 + 865081x - 245166$	$[1, -1, -1, 1]$	$x^2$	-1	0.1237	0.2199
39	$1709975x^2 + 1322039x - 970977$	$[2, 3, 1, 1]$	$-1/2x^2 + 1/2x - 3/4$	-2	0.3026	0.5809
40	$987664x^2 + 2187120x - 1216143$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.2960	0.4478

41	$1199456x^2 - 2697639x + 987664$	$[1, -5, -1, 2]$	$x$	1	0.2073	0.2761
42	$3897095x^2 + 811520x - 1199456$	$[1, 1, 1, 1]$	$-x$	1	0.1991	0.2266
43	$-1411248x^2 + 7582398x - 3191471$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.2821	0.3419
44	$8993646x^2 - 1074599x - 1411248$	$[1, 2, 0, 1]$	$x$	1	0.1827	0.1898
45	$10068245x^2 + 14901717x - 8993646$	$[1, 2, 1, 1]$	$-x$	1	0.2309	0.4204
46	$-19398540x^2 + 9731596x - 368975$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.1464	0.1833
47	$29130136x^2 + 28728835x - 19398540$	$[1, 2, 0, 1]$	$x$	1	0.1520	0.3673
48	$-48127375x^2 + 44096505x - 10100571$	$[1, 3, 0, 1]$	$x^2 + 1/2$	1	0.2954	0.5564
49	$-401301x^2 - 63093744x + 29130136$	$[1, -1, -1, 1]$	$\frac{6}{11}x^2 + 4/11x + 4/11$	1	0.3283	0.3983
50	$77257511x^2 - 15367670x - 9297969$	$[1, -1, 0, 1]$	$1/2x^2 - 1/2x + 3/4$	1	0.3080	0.3247
51	$77658812x^2 + 47726074x - 38428105$	$[0, -1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.1861	0.3020
52	$-124983585x^2 + 122557919x - 29932738$	$[1, -1, -1, 1]$	$x^2$	1	0.1022	0.2062
53	$262507873x^2 + 235000801x - 163812991$	$[2, 3, 1, 1]$	$-1/2x^2 + 1/2x - 3/4$	2	0.2820	0.6178
54	$137524288x^2 + 357558720x - 193745729$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.3129	0.4510
55	$220034432x^2 - 400032161x + 137524288$	$[1, -5, -1, 2]$	$x$	-1	0.1803	0.2561
56	$620066593x^2 + 192527360x - 220034432$	$[1, 1, 1, 1]$	$-x$	-1	0.1994	0.2437
57	$-302544576x^2 + 1157623042x - 468794305$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	-1	0.2601	0.3205
58	$1460167618x^2 - 14977441x - 302544576$	$[1, 2, 0, 1]$	$x$	-1	0.1905	0.1987
59	$1475145059x^2 + 2492796003x - 1460167618$	$[1, 2, 1, 1]$	$-x$	-1	0.2556	0.4328
60	$-3222879812x^2 + 1187577924x + 136294847$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	-1	0.1599	0.1819
61	$4410457736x^2 + 4970614565x - 3222879812$	$[1, 2, 0, 1]$	$x$	-1	0.1751	0.3865
62	$-8193494377x^2 + 6055529775x - 1051283077$	$[1, 3, 0, 1]$	$x^2 + 1/2$	-1	0.3386	0.5292
63	$560156829x^2 - 9838566416x + 4410457736$	$[1, -1, -1, 1]$	$\frac{6}{11}x^2 + 4/11x + 4/11$	-1	0.3157	0.3802
64	$12043795284x^2 + 8753651206x - 6582054471$	$[1, -1, -1, 1]$	$1/2x^2 - 1/2x - 1/4$	-1	0.1770	0.3235
65	$-21357603319x^2 + 16979011401x - 3290144078$	$[1, -2, -1, 1]$	$x^2$	-1	0.1180	0.1954
66	$39981686759x^2 + 41070134599x - 27379500961$	$[2, 5, 1, 1]$	$-1/2x^2 + 1/2x - 3/4$	-2	0.2730	0.6531
67	$18624083440x^2 + 58049146000x - 30669645039$	$[0, 1, 1, 1]$	$-2/7x^2 - 6/7x - 1/7$	0	0.3262	0.4508
68	$39425062560x^2 - 58605770199x + 18624083440$	$[1, -5, -1, 2]$	$x$	1	0.1530	0.2378
69	$98030832759x^2 + 40513510400x - 39425062560$	$[1, 1, 1, 1]$	$-x$	1	0.1971	0.2627
70	$-60226041680x^2 + 175260686398x - 67917811919$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.2358	0.2990
71	$235486728078x^2 + 22421250601x - 60226041680$	$[1, 2, 0, 1]$	$x$	1	0.1960	0.2106
72	$213065477477x^2 + 413456133797x - 235486728078$	$[1, 2, 1, 1]$	$-x$	1	0.2781	0.4421
73	$-531199497836x^2 + 130418185196x + 52534271441$	$[1, -2, 0, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.1718	0.1838
74	$661617683032x^2 + 849333518195x - 531199497836$	$[1, 2, 0, 1]$	$x$	1	0.2022	0.4039
75	$-1380533016031x^2 + 804710689385x - 77883913755$	$[1, 3, 0, 1]$	$x^2 + 1/2$	1	0.3802	0.5106
76	$187715835163x^2 - 1523626022384x + 661617683032$	$[1, -1, -1, 1]$	$\frac{6}{11}x^2 + 4/11x + 4/11$	1	0.2995	0.3605
77	$1854434863900x^2 + 1568248851194x - 1114933267113$	$[1, -1, -1, 1]$	$1/2x^2 - 1/2x - 1/4$	1	0.1660	0.3448
78	$-3610399550257x^2 + 2283713882959x - 286186012706$	$[1, -2, -1, 1]$	$x^2$	1	0.1334	0.1876
79	$6037206439569x^2 + 7077706094161x - 4537616982207$	$[2, 5, 1, 1]$	$-1/2x^2 + 1/2x - 3/4$	2	0.3207	0.6859
80	$6934613087808x^2 - 8464013328881x + 2426806889312$	$[1, -5, -1, 2]$	$-4/7x^2 + 2/7x - 2/7$	1	0.1263	0.2214

Number:  $\xi = .2711\dots$  Equation:  $2x^3 + 2x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-3x^2 - 3x + 1$	$[1, -3, -3, 1]$	$2x - 1$	-1	0.3028	0.6392
2	$-x^2 + 4x - 1$	$[1, -4, -1, 1]$	$-2/5x^2 + 2/5x - 2/5$	-1	0.1728	0.1944
3	$-5x^2 - 6x + 2$	$[1, 2, 0, 1]$	$x^2 + 1/2$	-1	0.2229	0.4025
4	$-6x^2 + 9x - 2$	$[1, 3, 0, 1]$	$-2/3x^2 + 2/3x - 1/3$	-1	0.1011	0.1511
5	$15x^2 + 7x - 3$	$[1, -2, -1, 1]$	$x$	-1	0.07614	0.09577
6	$-35x^2 + 39x - 8$	$[1, 5, 0, 1]$	$2x^2$	-1	0.07564	0.1397
7	$-47x^2 - 109x + 33$	$[2, -7, -2, 1]$	$x^2 + 1/2$	-2	0.3389	0.4329
8	$136x^2 - 59x + 6$	$[1, -6, -1, 2]$	$2/3x^2 - 2/3x + 1/3$	-1	0.1064	0.1266
9	$195x^2 + 198x - 68$	$[1, -2, 1, 1]$	$-x$	-1	0.06110	0.1276
10	$-6x^2 + 721x - 195$	$[1, -4, 3, 1]$	$-2x$	-1	0.4393	0.4714
11	$727x^2 - 186x - 3$	$[1, 3, -1, 1]$	$x$	-1	0.1211	0.1290
12	$183x^2 + 1640x - 458$	$[1, 2, 0, 1]$	$x^2 + 1/2$	-1	0.3533	0.3852
13	$-544x^2 + 1826x - 455$	$[0, -1, 1, 1]$	$-2/3x^2 - 4/3x - 1/3$	0	0.3257	0.3749
14	$-2370x^2 - 361x + 272$	$[1, -3, -1, 1]$	$-x$	-1	0.1487	0.1542
15	$2009x^2 + 3827x - 1185$	$[1, 1, -1, 1]$	$x$	-1	0.1051	0.1442
16	$-3636x^2 + 8397x - 2009$	$[1, 3, 2, 1]$	$-2x$	-1	0.2744	0.3416
17	$-12033x^2 - 3445x + 1818$	$[1, -3, 1, 1]$	$-x$	-1	0.1527	0.1688
18	$-17296x^2 + 17176x - 3385$	$[1, 2, 1, 1]$	$-x^2 + 1/2$	-1	0.1346	0.2725
19	$-34472x^2 - 22559x + 8648$	$[1, 4, -1, 1]$	$-x$	-1	0.1449	0.2161
20	$-11913x^2 - 60356x + 17236$	$[1, -2, 1, 1]$	$-x$	-1	0.1204	0.1350
21	$-96886x^2 + 70211x - 11913$	$[1, 3, -2, 1]$	$2x$	-1	0.1683	0.2592
22	$-84973x^2 + 130567x - 29149$	$[0, -1, 1, 1]$	$-x^2 - x - 1/2$	0	0.2581	0.3802
23	$-167097x^2 - 133416x + 48443$	$[1, 3, 1, 1]$	$2/5x^2 - 2/5x + 2/5$	-1	0.1357	0.2335
24	$-181859x^2 + 200778x - 41062$	$[1, 1, 0, 1]$	$-x^2 - 1/2$	-1	0.1123	0.2092
25	$-348956x^2 + 67362x + 7381$	$[0, 1, 1, 1]$	$-2/3x^2 - 4/3x - 1/3$	0	0.2523	0.2619
26	$416318x^2 + 530815x - 174478$	$[1, -3, 0, 1]$	$x$	1	0.1583	0.2727
27	$-114497x^2 + 798955x - 208159$	$[1, 1, 1, 1]$	$-x$	1	0.09720	0.1058
28	$-1826904x^2 + 72827x + 114497$	$[1, -3, 2, 1]$	$-2x$	1	0.2755	0.2770
29	$-1941401x^2 + 871782x - 93662$	$[0, 1, 1, 1]$	$-x^2 - x - 1/2$	0	0.2628	0.3164
30	$1899731x^2 + 2854853x - 913452$	$[1, 3, -1, 1]$	$-2/5x^2 + 2/5x - 2/5$	-1	0.1824	0.2818
31	$-3768305x^2 + 944609x + 20835$	$[1, 1, 0, 1]$	$x^2 + 1/2$	-1	0.1822	0.1937
32	$-5668036x^2 - 1910244x + 934287$	$[0, -1, 1, 1]$	$-2/3x^2 - 4/3x - 1/3$	0	0.3066	0.3498
33	$-5678549x^2 + 8470706x - 1878896$	$[1, 2, 2, 1]$	$-x^2$	-1	0.05032	0.07541
34	$-28298510x^2 - 13277855x + 5678549$	$[3, 4, -1, 1]$	$-2x$	-3	0.3045	0.3838
35	$-33977059x^2 - 4807149x + 3799653$	$[0, 1, 1, 1]$	$-x^2 - x - 1/2$	0	0.3707	0.3827
36	$-18956404x^2 + 43319165x - 10349602$	$[1, 14, -1, 3]$	$-2/5x^2 + 2/5x + 3/5$	1	0.4092	0.5109
37	$-47254914x^2 + 30041310x - 4671053$	$[1, 0, 1, 1]$	$-2/3x^2 - 4/3x - 1/3$	1	0.3621	0.5120
38	$-15020655x^2 - 48126314x + 14149255$	$[1, -1, 0, 1]$	$-1/2 - 1/2x$	1	0.2387	0.2826
39	$-62275569x^2 - 18085004x + 9478202$	$[0, 1, 1, 1]$	$-x^2 - 1/2$	0	0.2292	0.2539
40	$-66211318x^2 + 73360475x - 15020655$	$[1, 1, 0, 1]$	$-4/3x^2 - 2/3x - 2/3$	-1	0.3007	0.5583

41	$-77296224x^2 - 66211318x + 23627457$	[1, 1, 0, 1]	$1/2x^2 + 3/4$	-1	0.2626	0.4799
42	$-128486887x^2 + 55275471x - 5542453$	[1, 1, 0, 1]	$-x^2$	-1	0.05332	0.06329
43	$367524716x^2 + 374375755x - 128486887$	[3, -4, -2, 1]	$2x$	-3	0.2454	0.5109
44	$496011603x^2 + 319100284x - 122944434$	[0, -1, 1, 1]	$-x^2 - x - 1/2$	0	0.3638	0.5368
45	$-502862642x^2 + 360673677x - 60817924$	[1, 14, 1, 3]	$2/5x^2 - 2/5x - 3/5$	-1	0.2539	0.3883
46	$-6851039x^2 + 679773961x - 183762358$	[0, 1, 1, 1]	$-2/3x^2 - 1/3x - 1/3$	0	0.2193	0.2354
47	$863536319x^2 + 693476039x - 251431321$	[1, 1, 0, 1]	$-x^2 - 1/2$	1	0.2030	0.3511
48	$856685280x^2 + 1373250000x - 435193679$	[0, 1, 1, 1]	$-2/3x^2 - 4/3x - 1/3$	0	0.3818	0.5687
49	$-516564720x^2 + 1720221599x - 428342640$	[1, 2, 0, 1]	$-x$	-1	0.1624	0.1871
50	$2236786319x^2 + 346504440x - 258282360$	[1, 1, -1, 1]	$x$	-1	0.07443	0.07721
51	$3780563758x^2 + 7226923677x - 2236786319$	[1, 3, 2, 1]	$-2x$	-1	0.4212	0.5768
52	$6017350077x^2 + 7573428117x - 2495068679$	[0, 1, 1, 1]	$-x^2 - x - 1/2$	0	0.3907	0.6797
53	$-3446359919x^2 + 7907631956x - 1890281879$	[1, -3, 1, 1]	$2/5x^2 - 2/5x + 2/5$	1	0.1367	0.1705
54	$9797913835x^2 + 14800351794x - 4731854998$	[1, 1, 0, 1]	$-x^2 - 1/2$	1	0.2746	0.4231
55	$16356429834x^2 - 16149467751x + 3175776958$	[1, -3, 0, 1]	$-2/3x^2 + 2/3x - 1/3$	1	0.06762	0.1361
56	$32505897585x^2 + 21358867793x - 8178214917$	[1, 2, 1, 1]	$-x$	1	0.07239	0.1082
57	$91580063005x^2 - 65946986961x + 11147029792$	[1, 5, 0, 1]	$-2x^2$	1	0.08445	0.1295
58	$77094016753x^2 + 249107112971x - 73190010087$	[2, 7, -2, 1]	$x^2 + 1/2$	2	0.3583	0.4236
59	$-14486046252x^2 + 315054099932x - 84337039879$	[0, -1, 1, 1]	$-2/3x^2 - 4/3x - 1/3$	0	0.4263	0.4577
60	$329540146184x^2 - 62607970501x - 7243023126$	[1, 6, 1, 2]	$x$	1	0.1264	0.1310
61	$392148116685x^2 + 501553242402x - 164770073092$	[1, 1, 1, 1]	$-x$	1	0.07938	0.1365
62	$-218810251434x^2 + 1505984496239x - 392148116685$	[1, -3, 2, 1]	$-2x$	1	0.3880	0.4225
63	$1724794747673x^2 - 63932739534x - 109405125717$	[1, 3, -1, 1]	$x$	1	0.1380	0.1387
64	$-45472386183x^2 + 3513522234880x - 949066306462$	[1, 2, 0, 1]	$x^2 + 1/2$	1	0.3283	0.3523
65	$-1770267133856x^2 + 3577454974414x - 839661180745$	[0, -1, 1, 1]	$-2/3x^2 - 4/3x - 1/3$	0	0.2531	0.3291
66	$-5347722108270x^2 - 1815739520039x + 885133566928$	[1, -3, -1, 1]	$-x$	1	0.1533	0.1752
67	$3531982588231x^2 + 8906716729333x - 2673861054135$	[1, 1, -1, 1]	$x$	1	0.1153	0.1438
68	$-10749468282204x^2 + 15943669872963x - 3531982588231$	[1, 3, 2, 1]	$-2x$	1	0.2003	0.3012
69	$-7217485693973x^2 + 24850386602296x - 6205843642366$	[0, 1, 1, 1]	$-x^2 - x - 1/2$	0	0.4109	0.4712
70	$-26693138155167x^2 - 12592219835075x + 5374734141102$	[1, -3, 1, 1]	$2/5x^2 - 2/5x + 2/5$	-1	0.1522	0.1922
71	$-17966953976177x^2 + 40794056475259x - 9737826230597$	[1, 1, 0, 1]	$-x^2 - 1/2$	-1	0.2038	0.2550
72	$-44660092131344x^2 + 28201836640184x - 4363092089495$	[0, 1, 1, 1]	$-2/3x^2 - 4/3x - 1/3$	0	0.1817	0.2559
73	$-62627046107521x^2 + 68995893115443x - 14100918320092$	[0, 1, 2, 1]	$-x^2 - x$	0	0.1494	0.2788
74	$72861928771528x^2 + 62627046107521x - 22330046065672$	[1, -3, 0, 1]	$-1/2x^2 - 3/4$	-1	0.1311	0.2403
75	$10234882664007x^2 + 131622939222964x - 36430964385764$	[0, 1, 1, 1]	$-x$	0	0.1160	0.1255
76	$-232541230453907x^2 + 235189515986513x - 46665847049771$	[1, 3, 0, 1]	$-2x + 1$	1	0.1695	0.3419
77	$346342689881463x^2 + 353929287012864x - 121388056558957$	[1, 4, -1, 1]	$-2/5x^2 + 2/5x - 2/5$	1	0.1232	0.2557
78	$475317343571821x^2 - 338756092750062x + 56900729713778$	[1, -2, 0, 1]	$-x^2 - 1/2$	1	0.1274	0.1940
79	$821660033453284x^2 + 15173194262802x - 64487326845179$	[0, 1, 1, 1]	$-2/3x^2 - 4/3x - 1/3$	0	0.2833	0.2851
80	$806486839190482x^2 + 1296977377025105x - 410830016726642$	[1, 3, 0, 1]	$-x$	-1	0.1913	0.2845

Number:  $\xi = .8733\dots$  Equation:  $2x^3 + 3x^2 - 3x - 1 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2x^2 - 3x + 4$	0	0.1107	0.2213
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-2x^2 - 3x + 4$	-1	0.06423	0.09634
3	$x^2 + 6x - 6$	[1, 6, -6, 1]	$2x^2 + 3x - 4$	-1	0.08388	0.1701
4	$8x^2 - 15x + 7$	[1, 7, 0, 1]	$2x - 1$	-1	0.3914	0.5879
5	$-20x^2 - 2x + 17$	[1, -5, -2, 1]	$-2/3x^2 - 1/3x + 4/3$	-1	0.3714	0.6435
6	$-7x^2 + 21x - 13$	[1, -1, 0, 1]	$x^2 + x - 1$	-1	0.2604	0.3891
7	$13x^2 + 23x - 30$	[0, -1, 1, 1]	$-x^2 - 3/2x + 3/2$	0	0.3043	0.5402
8	$35x^2 - 34x + 3$	[1, -1, -1, 1]	$-2x^2 + x$	-1	0.2700	0.5268
9	$-48x^2 + 11x + 27$	[0, -1, -1, 1]	$-2/3x^2 - 1/3x + 4/3$	0	0.2711	0.3711
10	$19x^2 + 67x - 73$	[1, 2, 0, 1]	$2x^2 + 2x - 4$	-1	0.4566	0.8721
11	$-29x^2 + 78x - 46$	[0, 1, 1, 1]	$1/2 - x$	0	0.1946	0.2892
12	$102x^2 + 22x - 97$	[1, -1, 1, 1]	$-2/3x^2 - 1/3x + 4/3$	1	0.1776	0.3465
13	$131x^2 - 56x - 51$	[0, -1, 1, 1]	$-x$	0	0.2559	0.3414
14	$-233x^2 + 34x + 148$	[0, 1, -2, 1]	$2x^2 + 3x - 4$	0	0.1174	0.1673
15	$529x^2 + 177x - 558$	[1, 0, 5, 1]	$2x^2 + 3x - 4$	1	0.09774	0.1954
16	$646x^2 - 1439x + 764$	[2, -13, -5, 1]	$2x^2 + x - 2$	2	0.2591	0.3843
17	$-2291x^2 + 117x + 1645$	[1, -7, -1, 2]	$-x^2 - x + 1$	1	0.4176	0.6339
18	$-1645x^2 - 1322x + 2409$	[0, 1, 1, 1]	$-x^2 - 3/2x + 3/2$	0	0.2643	0.4672
19	$-3054x^2 + 3172x - 441$	[1, -2, 1, 1]	$2x^2 - x - 1$	-1	0.1595	0.3105
20	$-5581x^2 - 2527x + 6463$	[1, 2, 0, 1]	$2x^2 + 2x - 4$	-1	0.4822	0.9155
21	$-2172x^2 + 7549x - 4936$	[1, 2, -1, 1]	$x^2 + 1/2x - 1$	-1	0.1311	0.1980
22	$-10807x^2 + 8194x + 1086$	[1, 1, 1, 1]	$-x$	-1	0.2346	0.3719
23	$-12979x^2 + 15743x - 3850$	[0, 1, 1, 1]	$-2x^2 - 3x + 4$	0	0.07224	0.1257
24	$5279x^2 - 40272x + 31143$	[1, -5, 0, 1]	$2x^2 + 3x - 4$	1	0.06860	0.1108
25	$-101660x^2 + 118395x - 25864$	[1, 7, 0, 1]	$2x - 1$	1	0.4426	0.7901
26	$-106939x^2 + 158667x - 57007$	[0, -1, 1, 1]	$-2/3x^2 - 4/3x + 4/3$	0	0.2699	0.4273
27	$57007x^2 + 138980x - 164844$	[1, -6, -1, 1]	$-x^2 - 3/2x + 3/2$	1	0.1668	0.3053
28	$-49932x^2 + 297647x - 221851$	[0, 1, 1, 1]	$-2x + 1$	0	0.4059	0.6429
29	$-372545x^2 + 296749x + 24966$	[1, 2, -1, 1]	$-x$	-1	0.5553	0.9102
30	$379620x^2 + 139878x - 411661$	[1, 1, -1, 1]	$-8/3x^2 - 10/3x + 13/3$	-1	0.4145	0.8148
31	$-429552x^2 + 157769x + 189810$	[1, 0, -1, 1]	$x$	-1	0.3941	0.5242
32	$7075x^2 + 436627x - 386695$	[1, 1, 0, 1]	$2x^2 + 2x - 4$	-1	0.2965	0.5292
33	$-422477x^2 + 594396x - 196885$	[0, 1, 1, 1]	$1/2 - x$	0	0.2051	0.3313
34	$809172x^2 - 17891x - 601471$	[1, -1, 0, 1]	$-2/3x^2 - 1/3x + 4/3$	1	0.2029	0.3152
35	$1231649x^2 - 612287x - 404586$	[0, -1, 1, 1]	$-x$	0	0.4106	0.5564
36	$-28707x^2 + 1607528x - 1381936$	[1, 2, 1, 1]	$-6x^2 - 7x + 11$	1	0.2177	0.3787
37	$2040821x^2 - 630178x - 1006057$	[1, 1, 0, 1]	$-2/3x^2 - 1/3x + 1/3$	1	0.1636	0.2189
38	$-4052935x^2 - 347172x + 3394050$	[0, -1, -2, 1]	$2x^2 + 3x - 4$	0	0.09361	0.1599
39	$8729296x^2 - 11152748x + 3082337$	[2, -5, 3, 1]	$-2x^2 - x + 2$	2	0.2825	0.4771
40	$10841035x^2 + 6476387x - 13923372$	[1, -7, -1, 2]	$x^2 + x - 2$	1	0.1603	0.2922

41	$2564622x^2 - 29129055x + 23482096$	[1, 2, -1, 1]	$2x^2 + x - 2$	1	0.2796	0.4635
42	$32975988x^2 - 27329029x - 1282311$	[1, 2, 1, 1]	$-x$	1	0.3129	0.5284
43	$41252401x^2 + 8276413x - 38687779$	[1, -1, 1, 1]	$2x^2 + 2x - 4$	1	0.3566	0.6846
44	$35540610x^2 - 56458084x + 22199785$	[1, 1, 0, 1]	$x^2 + 1/2x - 1$	1	0.1331	0.2064
45	$109768999x^2 - 75510700x - 17770305$	[1, 1, 1, 1]	$-x$	1	0.4394	0.6588
46	$145309609x^2 - 131968784x + 4429480$	[0, 1, 1, 1]	$-2x^2 - 3x + 4$	0	0.1117	0.2040
47	$-136450649x^2 + 290566833x - 149686704$	[1, -5, 0, 1]	$2x^2 + 3x - 4$	-1	0.06483	0.09632
48	$162922759x^2 + 876077594x - 889313649$	[1, 6, 6, 1]	$-2x^2 - 3x + 4$	-1	0.08811	0.1766
49	$1100464152x^2 - 2165936615x + 1052236408$	[1, -7, 0, 1]	$2x - 1$	-1	0.3902	0.5830
50	$2879091450x^2 + 339081573x - 2491782133$	[1, 5, 2, 1]	$2/3x^2 + 1/3x - 4/3$	-1	0.3680	0.6488
51	$-937541393x^2 + 3042014209x - 1941550057$	[1, -1, 0, 1]	$-x^2 - x + 1$	-1	0.2613	0.3925
52	$1941550057x^2 + 3381095782x - 4433332190$	[0, 1, 1, 1]	$-x^2 - 3/2x + 3/2$	0	0.3177	0.5635
53	$4917096995x^2 - 4868869251x + 502004332$	[1, 1, -1, 1]	$-2x^2 + x$	1	0.2548	0.5073
54	$6858647052x^2 - 1487773469x - 3931327858$	[0, 1, 1, 1]	$2/3x^2 + 1/3x - 4/3$	0	0.2647	0.3641
55	$2945558721x^2 + 9804205773x - 10808214437$	[1, 2, 0, 1]	$-2x^2 - 2x + 4$	-1	0.4786	0.9080
56	$-3913088331x^2 + 11291979242x - 6876886579$	[0, -1, 1, 1]	$1/2 - x$	0	0.1950	0.2907
57	$14721302768x^2 + 3447563053x - 14237537963$	[1, 1, 1, 1]	$-2/3x^2 - 1/3x + 4/3$	-1	0.1769	0.3521
58	$18634391099x^2 - 7844416189x - 7360651384$	[0, -1, 1, 1]	$-x$	0	0.2476	0.3301
59	$33355693867x^2 - 4396853136x - 21598189347$	[0, -1, 2, 1]	$-2x^2 - 3x + 4$	0	0.1151	0.1654
60	$76552072561x^2 + 27042021038x - 81995904252$	[1, 0, 5, 1]	$-2x^2 - 3x + 4$	1	0.1009	0.1999
61	$88132439664x^2 - 208058028336x + 114481756981$	[2, 13, -5, 1]	$2x^2 + x - 2$	2	0.2590	0.3838
62	$328676320729x^2 - 11580367103x - 240543881065$	[1, 7, 1, 2]	$x^2 + x - 1$	1	0.4110	0.6316
63	$240543881065x^2 + 196477661233x - 355025638046$	[0, -1, 1, 1]	$-x^2 - 3/2x + 3/2$	0	0.2745	0.4847
64	$-428389127496x^2 + 454738444813x - 70415537149$	[1, -2, -1, 1]	$-2x^2 + x + 1$	1	0.1568	0.2996
65	$809764082859x^2 + 381374955363x - 950595157157$	[1, 2, 0, 1]	$-2x^2 - 2x + 4$	1	0.4988	0.9411
66	$287558053198x^2 - 1094374183756x + 736400593409$	[1, -2, -1, 1]	$x^2 + 1/2x - 1$	1	0.1317	0.2005
67	$-1525711263553x^2 + 1167737673206x + 143779026599$	[1, -1, -1, 1]	$x$	1	0.2236	0.3566
68	$-1813269316751x^2 + 2262111856962x - 592621566810$	[0, -1, 1, 1]	$-2x^2 - 3x + 4$	0	0.07132	0.1220
69	$-628026183131x^2 + 5853245874143x - 4632598124202$	[1, -5, 0, 1]	$-2x^2 - 3x + 4$	1	0.06929	0.1135
70	$-14218596480810x^2 + 17002520671940x - 4004571941071$	[1, 7, 0, 1]	$-2x + 1$	1	0.4365	0.7660
71	$-14846622663941x^2 + 22855766546083x - 8637170065273$	[0, 1, 1, 1]	$-2/3x^2 - 4/3x + 4/3$	0	0.2678	0.4190
72	$8637170065273x^2 + 20379066429880x - 24383638370951$	[1, 6, -1, 1]	$-x^2 - 3/2x + 3/2$	-1	0.1745	0.3183
73	$-6209452598668x^2 + 43234832975963x - 33020808436224$	[0, 1, 1, 1]	$-2x + 1$	0	0.4095	0.6569
74	$-52549011873965x^2 + 42334987334226x + 3104726299334$	[1, 2, -1, 1]	$-x$	1	0.5283	0.8731
75	$54976729340570x^2 + 21278912071617x - 60509173106509$	[1, 1, -1, 1]	$-8/3x^2 - 10/3x + 13/3$	1	0.4282	0.8347
76	$-61186181939238x^2 + 21955920904346x + 27488364670285$	[1, 0, -1, 1]	$x$	1	0.3824	0.5088
77	$2427717466605x^2 + 63613899405843x - 57404446807175$	[1, 1, 0, 1]	$2x^2 + 2x - 4$	1	0.3010	0.5465
78	$-58758464472633x^2 + 85569820310189x - 29916082136890$	[0, 1, 1, 1]	$1/2 - x$	0	0.2033	0.3240
79	$116162911279808x^2 - 677008832729x - 87997537776794$	[1, -1, 0, 1]	$-2/3x^2 - 1/3x + 4/3$	-1	0.2000	0.3148
80	$174921375752441x^2 - 86246829142918x - 58081455639904$	[0, -1, 1, 1]	$-x$	0	0.3960	0.5359

Number:  $\xi = .8892\dots$  Equation:  $2x^3 + 3x^2 - 2x - 2 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 3/2x + 2$	0	0.09850	0.1970
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 - 3/2x + 2$	-1	0.04908	0.07362
3	$8x^2 - 6x - 1$	[1, 8, -1, 1]	$-2x + 1$	-1	0.6113	0.9647
4	$9x^2 - 8x$	[0, 1, 1, 1]	$-1/2x^2 - x + 1$	0	0.2202	0.3942
5	$9x^2 - 17x + 8$	[1, 8, 0, 1]	$-x^2 - 3/2x + 2$	1	0.09786	0.1470
6	$-x^2 + 38x - 33$	[1, 3, -4, 1]	$x^2 + 3/2x - 2$	1	0.06091	0.1069
7	$80x^2 - 106x + 31$	[1, 8, 1, 1]	$2x - 1$	1	0.3690	0.6107
8	$-81x^2 + 144x - 64$	[0, 1, -1, 1]	$1/2x^2 + x - 1$	0	0.1938	0.2934
9	$-306x^2 + 217x + 49$	[1, -5, -4, 1]	$1/2 - x$	-1	0.3406	0.5206
10	$17x^2 - 321x + 272$	[1, -3, 1, 1]	$x^2 + x - 2$	-1	0.1200	0.2064
11	$-255x^2 - 746x + 865$	[0, 1, 3, 1]	$-x^2 - 3/2x + 2$	0	0.1085	0.1986
12	$-472x^2 + 1966x - 1375$	[1, 1, -5, 1]	$2x - 1$	1	0.4363	0.6749
13	$-2674x^2 + 1847x + 472$	[1, 5, 3, 1]	$-x$	1	0.7178	1.083
14	$217x^2 - 2712x + 2240$	[1, -1, 0, 1]	$x^2 + x - 2$	1	0.2363	0.3990
15	$-3146x^2 + 3813x - 903$	[1, 1, 0, 1]	$x - 1/2$	1	0.1818	0.3158
16	$-5169x^2 - 2476x + 6289$	[1, 3, 1, 1]	$x^2 + x - 1$	1	0.3363	0.6156
17	$-2023x^2 - 6289x + 7192$	[0, -1, 1, 1]	$-2x^2 - x + 2$	0	0.2070	0.3817
18	$11678x^2 - 7862x - 2243$	[1, -2, -1, 1]	$x^2 - 1/2x$	1	0.1889	0.2815
19	$-9215x^2 - 15054x + 20673$	[1, 2, 0, 1]	$-2x^2 - 2x + 3$	1	0.2131	0.3684
20	$-27842x^2 + 32351x - 6752$	[1, -3, -1, 1]	$-2x^2 + x$	1	0.3612	0.6445
21	$-37057x^2 + 17297x + 13921$	[0, 1, 1, 1]	$-1/2x$	0	0.2107	0.2864
22	$-15967x^2 - 53024x + 59776$	[1, 3, 0, 1]	$4x^2 + 4x - 6$	-1	0.3947	0.7334
23	$21090x^2 - 70321x + 45855$	[0, -1, 1, 1]	$1/2 - x$	0	0.2126	0.3221
24	$-101956x^2 + 66945x + 21090$	[1, 2, 0, 1]	$x$	-1	0.3974	0.5857
25	$-96833x^2 - 56400x + 126721$	[1, 1, 1, 1]	$x^2 + 1/2x - 2$	-1	0.4694	0.8365
26	$123046x^2 - 137266x + 24765$	[1, -1, 0, 1]	$-4x^2 + 3$	-1	0.08973	0.1648
27	$-321835x^2 + 147811x + 123046$	[1, 1, -1, 1]	$x$	-1	0.4386	0.5953
28	$-444881x^2 + 285077x + 98281$	[0, -1, 1, 1]	$-x^2 - 3/2x + 2$	0	0.1044	0.1524
29	$1086324x^2 - 1165073x + 177030$	[1, 7, -1, 1]	$2x^2 + 3x - 4$	-1	0.1784	0.3376
30	$909294x^2 - 2516942x + 1519133$	[1, 7, 4, 1]	$-x^2 - 3/2x + 2$	-1	0.1037	0.1550
31	$-3880883x^2 + 2428427x + 909294$	[1, -4, 1, 1]	$x$	-1	0.2193	0.3172
32	$-4790177x^2 + 4945369x - 609839$	[0, -1, 1, 1]	$-x^2 - 3/2x + 2$	0	0.04435	0.08664
33	$8360676x^2 - 21300609x + 12330094$	[1, 8, 0, 1]	$2x^2 + 3x - 4$	-1	0.2050	0.3053
34	$-33841623x^2 + 20690770x + 8360676$	[1, 8, 1, 1]	$x$	-1	0.4601	0.6602
35	$-42202299x^2 + 41991379x - 3969418$	[0, -1, 1, 1]	$-x^2 - 3/2x + 2$	0	0.08914	0.1782
36	$-38232881x^2 + 90147805x - 49930215$	[1, -4, 0, 1]	$-x^2 - 3/2x + 2$	-1	0.05067	0.07532
37	$-333227134x^2 + 266473997x + 26535547$	[1, 8, -1, 1]	$-2x + 1$	-1	0.5389	0.8870
38	$-371460015x^2 + 356621802x - 23394668$	[0, 1, 1, 1]	$-1/2x^2 - x + 1$	0	0.1906	0.3670
39	$-348065347x^2 + 763173819x - 403411138$	[1, 8, 0, 1]	$-x^2 - 3/2x + 2$	1	0.1002	0.1491
40	$-55345791x^2 - 1716355873x + 1569996095$	[1, 3, -4, 1]	$x^2 + 3/2x - 2$	1	0.06314	0.1160



41	$-3211328582x^2 + 4745656481x - 1680687677$	$[1, 8, 1, 1]$	$2x - 1$	1	0.3758
42	$-3155982791x^2 + 6462012354x - 3250683772$	$[0, -1, 1, 1]$	$-1/2x^2 - x + 1$	0	0.1983
43	$12773977936x^2 - 9637672740x - 1530640905$	$[1, -5, -4, 1]$	$x - 1/2$	1	0.3016
44	$94700981x^2 + 14494020803x - 12963379898$	$[1, 3, 1, 1]$	$x^2 + x - 2$	1	0.1243
45	$-28609237682x^2 + 40231378637x - 13152781860$	$[1, -2, 1, 1]$	$-2x + 1$	1	0.7453
46	$13058080879x^2 + 33844389669x - 40420780599$	$[1, 3, 0, 1]$	$-1/2x^2 - 1/2x + 1$	1	0.1204
47	$-15456455822x^2 + 88569789109x - 66536942357$	$[1, 1, 1, 1]$	$-2x + 1$	1	0.4500
48	$-111754472842x^2 + 81993398179x + 15456455822$	$[1, -4, 2, 1]$	$-x$	1	0.6370
49	$-2398374943x^2 + 122414178778x - 106957722956$	$[1, 1, 0, 1]$	$-x^2 - x + 2$	1	0.2446
50	$-127210928664x^2 + 170563187288x - 51080486535$	$[1, 1, 0, 1]$	$1/2 - x$	1	0.1848
51	$-231770276677x^2 - 114685950867x + 285249138155$	$[1, -3, 1, 1]$	$x^2 + x - 1$	1	0.3515
52	$-104559348013x^2 - 285249138155x + 336329624690$	$[0, -1, 1, 1]$	$-2x^2 - x + 2$	0	0.2300
53	$-488590508948x^2 + 348854602487x + 76130442129$	$[1, 2, 1, 1]$	$-x^2 + 1/2x$	1	0.1680
54	$-440888972703x^2 - 685184227177x + 957908387535$	$[1, 2, 0, 1]$	$2x^2 + 2x - 3$	1	0.2324
55	$-1129441902154x^2 + 1446498896483x - 393187436458$	$[1, 3, -1, 1]$	$-2x^2 + x$	1	0.3669
56	$-1570330874857x^2 + 761314669306x + 564720951077$	$[0, 1, 1, 1]$	$-1/2x$	0	0.1923
57	$834076409161x^2 + 2404407284018x - 2797594720476$	$[1, -3, 0, 1]$	$-4x^2 - 4x + 6$	-1	0.4392
58	$-736254465696x^2 + 3165721953324x - 2232873769399$	$[0, 1, 1, 1]$	$1/2 - x$	0	0.2189
59	$-4270103651868x^2 + 2969128235095x + 736254465696$	$[1, 2, 0, 1]$	$-x$	1	0.3542
60	$4367925595333x^2 + 2601001002247x - 5766722955571$	$[1, 1, -1, 1]$	$-x^2 - 1/2x + 2$	1	0.4939
61	$-5006358117564x^2 + 6134850188419x - 1496619303703$	$[1, 1, 0, 1]$	$-4x^2 + 3$	1	0.09107
62	$-13644387364765x^2 + 6502977421267x + 5006358117564$	$[1, -1, 1, 1]$	$-x$	1	0.4006
63	$-18650745482329x^2 + 12637827609686x + 3509738813861$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 2$	0	0.09323
64	$-44320968592380x^2 + 52047929742447x - 11236699963928$	$[1, 7, 1, 1]$	$-2x^2 - 3x + 4$	-1	0.1809
65	$33084268628452x^2 - 113223948280719x + 74521329670303$	$[1, 7, -4, 1]$	$x^2 + 3/2x - 2$	-1	0.1066
66	$-162850351223397x^2 + 107605598298755x + 33084268628452$	$[1, 4, 1, 1]$	$x$	-1	0.1962
67	$-195934619851849x^2 + 220829546579474x - 41437061041851$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 2$	0	0.04494
68	$-308995117619996x^2 + 957839515988199x - 607407337326352$	$[1, -8, 0, 1]$	$-2x^2 - 3x + 4$	-1	0.2106
69	$-1421332192418193x^2 + 916402454946348x + 308995117619996$	$[1, 8, -1, 1]$	$-x$	-1	0.4124
70	$-1730327310038189x^2 + 1874241970934547x - 298412219706356$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 2$	0	0.08933
71	$-1431915090331833x^2 + 4052187610532270x - 2471066410347259$	$[1, 4, 0, 1]$	$-x^2 - 3/2x + 2$	1	0.05202
72	$-13832035582391872x^2 + 11858150611890454x + 392763770316407$	$[1, 8, -1, 1]$	$-2x + 1$	1	0.4718
73	$-15263950672723705x^2 + 1591033822242724x - 2078302640030852$	$[0, 1, 1, 1]$	$-1/2x^2 - x + 1$	0	0.1777
74	$-13185648032692853x^2 + 34291742855192707x - 20066943502484428$	$[1, 8, 0, 1]$	$-x^2 - 3/2x + 2$	-1	0.1028
75	$-6881295469791575x^2 - 77577806141612202x + 74425629860161563$	$[1, 3, -4, 1]$	$x^2 + 3/2x - 2$	-1	0.06554
76	$-127630430404058104x^2 + 212666474922352178x - 88188220799744713$	$[1, 8, 1, 1]$	$2x - 1$	-1	0.3834
77	$-120749134934266529x^2 + 290244281063964380x - 162613850659906276$	$[0, -1, 1, 1]$	$-1/2x^2 - x + 1$	0	0.2032
78	$531742550932497438x^2 - 428485126126154995x - 39442209604313391$	$[1, -5, -4, 1]$	$x - 1/2$	-1	0.2655
79	$41864715725639747x^2 + 654914191988090323x - 615471982383776932$	$[1, 3, 1, 1]$	$x^2 + x - 2$	-1	0.1289
80	$-1757841503457398590x^2 + 920785467454339042x + 571184760536810829$	$[1, -3, -1, 1]$	$x^2 - 1/2x$	-1	0.3214

Number:  $\xi = .7446\dots$  Equation:  $2x^3 + 3x^2 - 2x - 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-2x^2 - 3x + 3$	0	0.1901	0.3803
2	$-x^2 - 2x + 2$	$[2, -2, -1, 1]$	$-3x^2 - 7/2x + 9/2$	-2	0.1751	0.3941
3	$4x^2 - 3x$	$[1, 3, 0, 1]$	$2x^2 - x$	-2	0.2552	0.3988
4	$5x^2 + 3x - 5$	$[1, -5, 1, 2]$	$2x^2 + 2x - 3$	-1	0.1602	0.3781
5	$-4x^2 + 7x - 3$	$[1, -2, 1, 1]$	$-2x^2 - x + 1$	-1	0.2681	0.4048
6	$x^2 + 10x - 8$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 3/2$	0	0.09380	0.1548
7	$16x^2 - 24x + 9$	$[1, 0, -3, 1]$	$2x - 1$	1	0.2643	0.4190
8	$33x^2 + 9x - 25$	$[1, 5, 2, 1]$	$x^2 + x - 1$	1	0.1495	0.2464
9	$-31x^2 + 58x - 26$	$[1, -2, 0, 1]$	$-2x^2 - x + 2$	1	0.06760	0.1005
10	$-21x^2 - 167x + 136$	$[1, -3, -2, 1]$	$2x^2 + 3x - 3$	1	0.1922	0.3227
11	$261x^2 - 5x - 141$	$[1, -6, -2, 1]$	$x^2 + 1/2x - 1/2$	1	0.2003	0.2589
12	$-511x^2 + 402x - 16$	$[1, -2, -2, 1]$	$-2x^2 - x + 2$	1	0.1124	0.1821
13	$479x^2 - 961x + 450$	$[1, -2, -2, 1]$	$2x^2 + 3x - 3$	1	0.1363	0.2001
14	$1890x^2 + 466x - 1395$	$[1, -6, -3, 1]$	$x^2 + 1/2x - 3/2$	1	0.3022	0.4853
15	$2369x^2 - 495x - 945$	$[0, 1, 1, 1]$	$-x$	0	0.3536	0.4253
16	$421x^2 + 2790x - 2311$	$[1, -2, 1, 1]$	$-4x^2 - 4x + 6$	-1	0.3940	0.6734
17	$-1948x^2 + 3285x - 1366$	$[0, -1, 1, 1]$	$1/2 - x$	0	0.1336	0.2037
18	$6207x^2 - 3314x - 974$	$[1, 2, -1, 1]$	$x$	-1	0.3553	0.4653
19	$8155x^2 - 6599x + 392$	$[0, -1, 1, 1]$	$-2x^2 - 3x + 3$	0	0.2103	0.3485
20	$15146x^2 - 582x - 7965$	$[1, 2, 3, 1]$	$x^2 + 1/2x - 3/2$	-1	0.4158	0.5314
21	$-7775x^2 - 15348x + 15740$	$[1, 2, -2, 1]$	$2x^2 + 2x - 3$	-1	0.1804	0.3960
22	$30672x^2 - 23111x + 202$	$[1, 2, 1, 1]$	$2x^2 - x$	-1	0.2496	0.3913
23	$-38851x^2 - 23515x + 39053$	$[1, 3, -1, 1]$	$-2x^2 - 2x + 3$	-1	0.1625	0.3824
24	$-30268x^2 + 54389x - 23717$	$[1, -2, -1, 1]$	$2x^2 + x - 1$	-1	0.2691	0.4037
25	$8583x^2 + 77904x - 62770$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 3/2$	0	0.09467	0.1573
26	$121476x^2 - 186278x + 71353$	$[1, 0, -3, 1]$	$2x - 1$	-1	0.2649	0.4163
27	$255599x^2 + 71353x - 194861$	$[1, 5, 2, 1]$	$x^2 + x - 1$	-1	0.1492	0.2475
28	$-234369x^2 + 450460x - 205476$	$[1, -2, 0, 1]$	$-2x^2 - x + 2$	-1	0.06781	0.1003
29	$-176583x^2 - 1301257x + 1066888$	$[1, -3, -2, 1]$	$2x^2 + 3x - 3$	-1	0.1941	0.3281
30	$2014979x^2 - 28893x - 1095781$	$[1, -6, -2, 1]$	$x^2 + 1/2x - 1/2$	-1	0.1986	0.2574
31	$-3911161x^2 + 3110760x - 147690$	$[1, -2, -2, 1]$	$-2x^2 - x + 2$	-1	0.1095	0.1790
32	$3615781x^2 - 7464991x + 3553830$	$[1, -2, -2, 1]$	$2x^2 + 3x - 3$	-1	0.1368	0.1999
33	$14634602x^2 + 3701520x - 10871131$	$[1, -6, -3, 1]$	$x^2 + 1/2x - 3/2$	-1	0.3014	0.4870
34	$18250383x^2 - 3763471x - 7317301$	$[0, 1, 1, 1]$	$-x$	0	0.3490	0.4200
35	$3491879x^2 + 21742262x - 18126481$	$[1, -2, 1, 1]$	$-4x^2 - 4x + 6$	1	0.3980	0.6849
36	$-14758504x^2 + 25505733x - 10809180$	$[0, -1, 1, 1]$	$1/2 - x$	0	0.1340	0.2029
37	$47643489x^2 - 25567684x - 7379252$	$[1, 2, -1, 1]$	$x$	1	0.3481	0.4568
38	$62401993x^2 - 51073417x + 3429928$	$[0, -1, 1, 1]$	$-2x^2 - 3x + 3$	0	0.2048	0.3426
39	$116905338x^2 - 3949324x - 61882597$	$[1, 2, 3, 1]$	$x^2 + 1/2x - 3/2$	1	0.4120	0.5279
40	$-61363201x^2 - 119815870x + 123245798$	$[1, 2, -2, 1]$	$2x^2 + 2x - 3$	1	0.1840	0.4034

41	$234849468x^2 - 178787935x + 2910532$	$[1, 2, 1, 1]$	$2x^2 - x$	1	0.2434	0.3844
42	$-302033733x^2 - 184608999x + 304944265$	$[1, 3, -1, 1]$	$-2x^2 - 2x + 3$	1	0.1648	0.3869
43	$-229028404x^2 + 422368999x - 187519531$	$[1, -2, -1, 1]$	$2x^2 + x - 1$	1	0.2699	0.4025
44	$73005329x^2 + 606977998x - 492463796$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 3/2$	0	0.09558	0.1599
45	$921934680x^2 - 1445894932x + 565469125$	$[1, 0, -3, 1]$	$2x - 1$	1	0.2654	0.4133
46	$1979867601x^2 + 565469125x - 1518900261$	$[1, 5, 2, 1]$	$x^2 + x - 1$	1	0.1489	0.2486
47	$-1770864031x^2 + 3498767862x - 1623402046$	$[1, -2, 0, 1]$	$-2x^2 - x + 2$	1	0.06804	0.1001
48	$-1475940061x^2 - 10139838031x + 8368974000$	$[1, -3, -2, 1]$	$2x^2 + 3x - 3$	1	0.1960	0.3336
49	$15556931909x^2 - 147461985x - 8516435985$	$[1, -6, -2, 1]$	$x^2 + 1/2x - 1/2$	1	0.1969	0.2559
50	$-29932847727x^2 + 24073367894x - 1328478076$	$[1, -2, -2, 1]$	$-2x^2 - x + 2$	1	0.1067	0.1759
51	$27275891575x^2 - 57991649849x + 28058802122$	$[1, -2, -2, 1]$	$2x^2 + 3x - 3$	1	0.1373	0.1998
52	$113326343546x^2 + 29387280198x - 84721973895$	$[1, -6, -3, 1]$	$x^2 + 1/2x - 3/2$	1	0.3006	0.4888
53	$140602235121x^2 - 28604369651x - 56663171773$	$[0, 1, 1, 1]$	$-x$	0	0.3445	0.4147
54	$28841712669x^2 + 169443947790x - 142168056215$	$[1, -2, 1, 1]$	$-4x^2 - 4x + 6$	-1	0.4020	0.6967
55	$-111760522452x^2 + 198048317441x - 85504884442$	$[0, -1, 1, 1]$	$1/2 - x$	0	0.1344	0.2022
56	$365689101119x^2 - 197265406894x - 55880261226$	$[1, 2, -1, 1]$	$x$	-1	0.3411	0.4483
57	$477449623571x^2 - 395313724335x + 29624623216$	$[0, -1, 1, 1]$	$-2x^2 - 3x + 3$	0	0.1994	0.3369
58	$902387971122x^2 - 26255638010x - 480818608777$	$[1, 2, 3, 1]$	$x^2 + 1/2x - 3/2$	-1	0.4083	0.5245
59	$418200377139x^2 - 961637217554x + 484187593983$	$[1, 2, -1, 1]$	$2x^2 + 2x - 2$	-1	0.2774	0.4002
60	$-484187593983x^2 - 935381579544x + 965006202760$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.1876	0.4110
61	$1798037971832x^2 - 1383206579899x + 32993608422$	$[1, 1, 1, 1]$	$2x^2 - x$	-1	0.2372	0.3777
62	$-2348212782659x^2 - 1449193796743x + 2381206391081$	$[1, 2, -1, 1]$	$-2x^2 - 2x + 3$	-1	0.1672	0.3916
63	$-1732050754988x^2 + 3280225376997x - 1482187405165$	$[1, -2, -1, 1]$	$2x^2 + x - 1$	-1	0.2708	0.4016
64	$-616162027671x^2 - 4729419173740x + 3863393796246$	$[0, 1, -1, 1]$	$x^2 + 3/2x - 3/2$	0	0.09651	0.1626
65	$6994190236796x^2 - 11223882710890x + 4479555823917$	$[1, 0, -3, 1]$	$-2x + 1$	1	0.2660	0.4116
66	$15337139856959x^2 + 4479555823917x - 11840044738561$	$[1, -5, 2, 1]$	$x^2 + x - 1$	1	0.1486	0.2498
67	$13372218445921x^2 - 27177184595520x + 12822505444080$	$[1, 2, 0, 1]$	$2x^2 + x - 2$	1	0.06827	0.1000
68	$-12272792442239x^2 - 79016919373681x + 65644700927760$	$[1, -3, 2, 1]$	$-2x^2 - 3x + 3$	1	0.1979	0.3393
69	$120116035416963x^2 - 549713001841x - 66194413929601$	$[1, 6, -2, 1]$	$x^2 + 1/2x - 1/2$	1	0.1952	0.2545
70	$229058704395369x^2 - 186310449346564x + 11723079440398$	$[1, 2, 2, 1]$	$2x^2 + x - 2$	1	0.1039	0.1729
71	$205612545514573x^2 - 450538392063127x + 221479687667758$	$[1, -2, 2, 1]$	$-2x^2 - 3x + 3$	1	0.1378	0.1999
72	$877630625245458x^2 + 233202767108156x - 660295000290487$	$[1, 6, -3, 1]$	$x^2 + 1/2x - 3/2$	1	0.2998	0.4907
73	$1083243170760031x^2 - 217335624954971x - 438815312622729$	$[0, 1, 1, 1]$	$-x$	0	0.3401	0.4096
74	$-237346829820943x^2 - 1320590000580974x + 1114977455066401$	$[1, 2, -1, 1]$	$4x^2 + 4x - 6$	-1	0.4061	0.7087
75	$-845896340939088x^2 + 1537925625535945x - 676162142443672$	$[0, -1, -1, 1]$	$x - 1/2$	0	0.1347	0.2016
76	$2806770136944577x^2 - 1522058483382760x - 422948170469544$	$[1, 2, 1, 1]$	$x$	-1	0.3342	0.4401
77	$3652666477883665x^2 - 3059984108918705x + 253213971974128$	$[0, -1, 1, 1]$	$-2x^2 - 3x + 3$	0	0.1941	0.3312
78	$-6965864558776498x^2 + 169734198495416x + 3736146251362377$	$[1, -2, -3, 1]$	$-x^2 - 1/2x + 3/2$	-1	0.4046	0.5212
79	$3146238533935409x^2 - 7472292502724754x + 3819626024841089$	$[1, 2, 1, 1]$	$-2x^2 - 2x + 2$	-1	0.2785	0.4007
80	$-3819626024841089x^2 - 7302558304229338x + 7555772276203466$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.1912	0.4187

Number:  $\xi = .9013\dots$  Equation:  $2x^3 + 3x^2 - x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.08896	0.1779
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-2/3x^2 - x + 4/3$	-1	0.03897	0.05846
3	$8x^2 - 5x - 2$	[1, 9, -2, 1]	$-2x + 1$	-1	0.5004	0.7272
4	$9x^2 - 7x - 1$	[0, 1, 1, 1]	$-2/5x^2 - 4/5x + 4/5$	0	0.1558	0.2520
5	$10x^2 - 19x + 9$	[1, 9, 0, 1]	$-x^2 - 3/2x + 3/2$	1	0.4612	0.6925
6	$15x^2 + 12x - 23$	[1, 3, -2, 1]	$1/3x^2 - 2/3$	1	0.2676	0.4542
7	$4x^2 - 38x + 31$	[1, 1, -1, 1]	$-2x^2 + x + 1$	1	0.2020	0.3387
8	$44x^2 - 33x - 6$	[1, 2, 1, 1]	$-x$	1	0.2441	0.3860
9	$48x^2 - 71x + 25$	[0, 1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.06962	0.1101
10	$143x^2 - 49x - 72$	[1, -1, 3, 1]	$-x$	-1	0.2545	0.3490
11	$191x^2 - 120x - 47$	[0, 1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.04973	0.07237
12	$667x^2 - 792x + 172$	[1, 10, 1, 1]	$-2x^2 - 3x + 4$	1	0.2809	0.4934
13	$1195x^2 - 337x - 667$	[1, 9, -1, 1]	$-2/3x$	1	0.3843	0.5346
14	$330x^2 - 1367x + 964$	[1, 2, -1, 1]	$-x^2 - 1/2x + 2$	1	0.3706	0.5766
15	$865x^2 + 1030x - 1631$	[0, 1, -1, 1]	$1/2x^2 + 1/2x - 1/2$	0	0.1883	0.3163
16	$2192x^2 - 2496x + 469$	[1, 1, 1, 1]	$-2x^2 + x + 1$	-1	0.1220	0.2203
17	$-5784x^2 + 1565x + 3288$	[1, -2, -2, 1]	$x$	-1	0.5903	0.8243
18	$2265x^2 + 4457x - 5857$	[1, -2, -1, 1]	$-2/3x^2 + 4/3$	-1	0.4793	0.8285
19	$-73x^2 - 6953x + 6326$	[1, 0, -1, 1]	$x - 1/2$	-1	0.2710	0.4954
20	$-7976x^2 + 4061x + 2819$	[1, -1, -1, 1]	$-2/5x^2 + 1/5x - 1/5$	-1	0.1229	0.1702
21	$-16025x^2 + 1169x + 11964$	[0, 1, 2, 1]	$-x$	0	0.4473	0.6989
22	$-5565x^2 + 22424x - 15690$	[1, -2, 1, 1]	$-2x^2 - x + 3$	1	0.4152	0.6440
23	$-24001x^2 + 5230x + 14783$	[1, 1, 0, 1]	$2/9x^2 - 1/3x - 1/9$	1	0.1099	0.1568
24	$-4895x^2 - 43679x + 43344$	[1, -2, 0, 1]	$2x^2 + x - 3$	1	0.1725	0.3445
25	$-96674x^2 + 87023x + 98$	[1, 4, -1, 1]	$-2/3x^2 + x - 2/3$	1	0.2594	0.4695
26	$-33791x^2 - 82128x + 101471$	[1, 2, 0, 1]	$1/2x^2 + 1/2x - 1/2$	1	0.1020	0.1801
27	$29092x^2 - 251279x + 202844$	[0, -1, 2, 1]	$-2x + 1$	0	0.5018	0.8355
28	$-294917x^2 + 217390x + 43638$	[1, 3, 0, 1]	$x$	1	0.6230	0.9752
29	$-328708x^2 + 135262x + 145109$	[1, 0, 1, 1]	$-2/15x^2 - 3/5x + \frac{4}{15}$	1	0.2960	0.4038
30	$-4699x^2 - 333407x + 304315$	[1, -1, 1, 1]	$x^2 + x - 1$	1	0.2173	0.3984
31	$324009x^2 - 468669x + 159206$	[0, -1, 1, 1]	$1/2 - x$	0	0.1723	0.2745
32	$-633023x^2 - 314162x + 797377$	[1, 1, 2, 1]	$-2/5x^2 + 1/5x + 4/5$	1	0.3269	0.5836
33	$-957032x^2 + 154507x + 638171$	[0, -1, 1, 1]	$-2x^2 - x + 2$	0	0.2476	0.3642
34	$10296x^2 - 1584907x + 1420104$	[1, 2, 1, 1]	$2x^2 + x - 3$	1	0.3220	0.5805
35	$-1600351x^2 + 1425252x + 15444$	[1, 1, -1, 1]	$x$	1	0.2959	0.5306
36	$-2547087x^2 - 5148x + 2073719$	[1, 1, 1, 1]	$2/9x^2 - 1/3x - 1/9$	1	0.1731	0.2879
37	$1610647x^2 - 3010159x + 1404660$	[1, -1, 0, 1]	$2x^2 + x - 3$	1	0.1146	0.1724
38	$674207x^2 - 6025466x + 4883039$	[0, 1, 2, 1]	$-2/3x^2 - x + 4/3$	0	0.05030	0.08397
39	$-14747760x^2 + 16465751x - 2860418$	[1, 2, -5, 1]	$2x - 1$	-1	0.3015	0.5524
40	$-15421967x^2 + 22491217x - 7743457$	[0, -1, 1, 1]	$-2/5x^2 - 4/5x + 4/5$	0	0.1384	0.2198

41	$-53335151x^2 + 26700049x + 19261222$	[1, 6, 4, 1]	$1/2 - x$	-1	0.3122	0.4312
42	$45656641x^2 + 30539304x - 64613233$	[1, 3, -2, 1]	$-2/5x^2 + 1/5x + 4/5$	-1	0.3003	0.5173
43	$98991792x^2 + 3839255x - 83874455$	[0, -1, 1, 1]	$-2x^2 - x + 2$	0	0.3707	0.6374
44	$-76435628x^2 + 106430619x - 33834246$	[1, 2, 1, 1]	$2x^2 + x - 3$	-1	0.2031	0.3284
45	$-53879464x^2 + 216700493x - 151542947$	[0, 1, 2, 1]	$-2/3x^2 - x + 4/3$	0	0.09223	0.1430
46	$297519689x^2 - 178482679x - 80819196$	[1, 1, -2, 1]	$x$	1	0.1567	0.2246
47	$351399153x^2 - 395183172x + 70723751$	[0, -1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.03027	0.0551
48	$2195962956x^2 - 888029827x - 983473708$	[1, 2, 8, 1]	$-2x + 1$	1	0.7503	1.023
49	$-1634612152x^2 - 1168705229x + 2381194477$	[1, 7, -2, 1]	$-2/5x^2 + 1/5x + 4/5$	1	0.5781	0.9898
50	$912749957x^2 - 2451918228x + 1468444520$	[1, 1, 1, 1]	$2x^2 - 1$	1	0.3829	0.5733
51	$2547362109x^2 - 1283212999x - 912749957$	[0, -1, 1, 1]	$-2/3x$	0	0.2483	0.3432
52	$3460112066x^2 - 3735131227x + 555694563$	[0, -1, 2, 1]	$-x^2 - 3/2x + 3/2$	0	0.3547	0.6669
53	$2917825151x^2 + 2732593630x - 4833112705$	[1, -1, -1, 1]	$1/3x^2 - 2/3$	-1	0.2351	0.3959
54	$3089649024x^2 - 7750937856x + 4476057311$	[1, 1, -1, 1]	$-2x^2 + x + 1$	-1	0.1673	0.2496
55	$12385411392x^2 - 6020881823x - 4634473536$	[1, 2, 1, 1]	$-x$	-1	0.3849	0.5298
56	$15475060416x^2 - 13771819679x - 158416225$	[0, 1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.06581	0.1179
57	$36984410303x^2 - 7579113983x - 23212590624$	[1, -1, 3, 1]	$-x$	1	0.3388	0.4865
58	$52459470719x^2 - 21350933662x - 23371006849$	[0, 1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.07465	0.1018
59	$-48419324345x^2 - 124249801913x + 151318192596$	[2, 12, -7, 1]	$-2x^2 - x + 3$	-2	0.2944	0.5231
60	$204120425855x^2 - 151318192596x - 29431226410$	[1, 8, 1, 2]	$2/3x^2 - x - 1/3$	-1	0.3713	0.5831
61	$155701101510x^2 - 275567994509x + 121886966186$	[0, 1, 1, 1]	$-2/3x^2 - x + 1$	0	0.2997	0.4540
62	$149298119409x^2 + 227148670164x - 326007392041$	[1, -2, 0, 1]	$1/2x^2 + 1/2x - 1/2$	1	0.1497	0.2537
63	$664820748284x^2 - 475305511450x - 111664686079$	[1, 2, 1, 1]	$-2x^2 + x + 1$	1	0.1722	0.2650
64	$-292193256717x^2 - 957014005001x + 1099909142309$	[1, -3, 0, 1]	$-x^2 - x + 1$	1	0.3363	0.6147
65	$372627491567x^2 - 1432319516451x + 988244456230$	[0, 1, 1, 1]	$1/2 - x$	0	0.2289	0.3533
66	$-1764729890593x^2 - 736268316938x + 2097140264735$	[1, -2, 2, 1]	$-2/5x^2 + 1/5x + 4/5$	-1	0.3215	0.5888
67	$2137357382160x^2 - 696051199513x - 1108895808505$	[0, 1, -1, 1]	$2x^2 + x - 2$	0	0.1757	0.2416
68	$3902087272753x^2 + 40217117425x - 3206036073240$	[0, 1, -2, 1]	$-x$	0	0.5277	0.8839
69	$2590419108577x^2 - 4517704237416x + 1967502246264$	[1, 3, -1, 1]	$-2x^2 - x + 3$	1	0.3353	0.5091
70	$6039444654913x^2 - 655834082088x - 4314931881745$	[1, 1, 0, 1]	$2/9x^2 - 1/3x - 1/9$	1	0.1384	0.2107
71	$-1278750944401x^2 + 9075625592257x - 7141040565768$	[1, -2, 0, 1]	$2x^2 + x - 3$	1	0.1482	0.2429
72	$3481942766111x^2 + 17495417102426x - 18597013013281$	[0, 1, 2, 1]	$-2/3x^2 - x + 4/3$	0	0.06814	0.1308
73	$21063063140408x^2 - 51207500362877x + 29042841311614$	[1, 2, -5, 1]	$2x - 1$	-1	0.4147	0.6182
74	$17581120374297x^2 - 68702917465303x + 47639854324895$	[0, -1, 1, 1]	$-2/5x^2 - 4/5x + 4/5$	0	0.1836	0.2839
75	$103865158213897x^2 - 90781873244695x - 2551753398998$	[1, 6, 4, 1]	$1/2 - x$	-1	0.1684	0.2971
76	$-133923892164495x^2 - 75752506269396x + 177065911084295$	[1, 3, -2, 1]	$-2/5x^2 + 1/5x + 4/5$	-1	0.3207	0.5629
77	$-237789050378392x^2 + 15029366975299x + 179617664483293$	[0, -1, 1, 1]	$-2x^2 - x + 2$	0	0.3042	0.4790
78	$91387544637596x^2 - 326019170224089x + 219602258611194$	[1, 2, 1, 1]	$2x^2 + x - 3$	-1	0.2711	0.4154
79	$-463100487180483x^2 + 265296030929992x + 137081316956394$	[1, 1, -1, 1]	$x$	-1	0.4930	0.6979
80	$-554488031818079x^2 + 591315201154081x - 82520941654800$	[0, -1, 1, 1]	$-2/3x^2 - x + 4/3$	0	0.08802	0.1671

Number:  $\xi = .6777\dots$  Equation:  $2x^3 + 3x^2 - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-x^2 - 1/2x + 1/2$	-1	0.1369	0.4106
2	$-2x^2 + 1$	$[1, -1, 1, 1]$	$-2x^2 - x + 1$	-1	0.3263	0.4079
3	$3x^2 - 2x$	$[1, 2, -2, 1]$	$2x^2 + 2x - 2$	-1	0.2010	0.2903
4	$-5x^2 - 4x + 5$	$[2, 3, 1, 1]$	$-x^2 - 1/2x + 1/2$	-2	0.1664	0.4392
5	$-8x^2 + x + 3$	$[1, -3, 1, 2]$	$-2x^2 - x + 1$	-1	0.2539	0.2936
6	$9x^2 - 12x + 4$	$[1, 2, -2, 1]$	$2x^2 + 2x - 2$	-1	0.1564	0.2617
7	$-25x^2 - 17x + 23$	$[2, 3, 1, 1]$	$-x^2 - 1/2x + 1/2$	-2	0.2023	0.4670
8	$-30x^2 + 10x + 7$	$[1, -3, 1, 2]$	$-2x^2 - x + 1$	-1	0.1736	0.2024
9	$-55x^2 - 7x + 30$	$[0, 1, 1, 1]$	$-x$	0	0.3954	0.5195
10	$19x^2 - 66x + 36$	$[1, 2, -2, 1]$	$2x^2 + x - 2$	1	0.2300	0.3175
11	$-104x^2 + 69x + 1$	$[1, 1, -1, 1]$	$x - 1/2$	1	0.1015	0.1461
12	$-225x^2 - x + 104$	$[1, 2, 2, 1]$	$-x$	1	0.3218	0.3906
13	$-329x^2 + 68x + 105$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.3273	0.3746
14	$-15x^2 - 344x + 240$	$[1, -4, 2, 1]$	$4/3x^2 + 4/3x - 2/3$	-1	0.3038	0.4523
15	$314x^2 - 412x + 135$	$[0, -1, 1, 1]$	$1/2 - x$	0	0.07743	0.1307
16	$-883x^2 + 135x + 314$	$[1, 2, 0, 1]$	$x$	-1	0.2410	0.2771
17	$-1197x^2 + 547x + 179$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.2107	0.2594
18	$-525x^2 - 1722x + 1408$	$[1, 4, 2, 1]$	$4/3x^2 + 4/3x - 2/3$	-1	0.3702	0.6522
19	$672x^2 - 2269x + 1229$	$[0, -1, 1, 1]$	$1/2 - x$	0	0.1142	0.1577
20	$-3277x^2 + 1229x + 672$	$[1, 2, 0, 1]$	$x$	-1	0.1614	0.1909
21	$-3949x^2 + 3498x - 557$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.1115	0.2012
22	$-4391x^2 - 8340x + 7668$	$[1, 4, 2, 1]$	$4/3x^2 + 4/3x - 2/3$	-1	0.4223	0.8963
23	$-11175x^2 + 8225x - 442$	$[1, 2, 0, 1]$	$-x^2 + 1/2x$	-1	0.09127	0.1409
24	$-10733x^2 + 20063x - 8667$	$[1, -1, 1, 1]$	$-x^2 - 3/2x + 1$	-1	0.1399	0.2061
25	$-28509x^2 - 39242x + 39684$	$[1, 6, -4, 1]$	$4/3x^2 + 4/3x - 2/3$	-1	0.4649	1.159
26	$-32641x^2 + 48351x - 17776$	$[1, 2, 0, 1]$	$-x^2 + 1/2x$	-1	0.08309	0.1322
27	$-14865x^2 + 107656x - 66127$	$[1, -1, 1, 1]$	$-x^2 - 3/2x + 1$	-1	0.1959	0.2736
28	$-164895x^2 - 179760x + 197536$	$[1, 6, -4, 1]$	$4/3x^2 + 4/3x - 2/3$	-1	0.5602	1.414
29	$-212401x^2 - 23753x + 113633$	$[1, 1, 1, 1]$	$-x^2 - 1/2x + 1/2$	-1	0.1930	0.2507
30	$-62371x^2 + 263663x - 150030$	$[1, -1, 1, 1]$	$-2x^2 - x + 2$	-1	0.1201	0.1658
31	$87659x^2 + 551079x - 413693$	$[0, -1, 2, 1]$	$-x^2 - 3/2x + 1$	0	0.2497	0.3967
32	$-776810x^2 + 563723x - 25288$	$[1, 2, 3, 1]$	$2/3x^2 - 1/3x + 2/3$	-1	0.3705	0.5661
33	$-864469x^2 + 12644x + 388405$	$[0, -1, 1, 1]$	$-1/2x$	0	0.1555	0.1869
34	$112947x^2 + 1365821x - 977416$	$[1, 2, 0, 1]$	$-2x^2 - x + 2$	-1	0.1568	0.2381
35	$1090363x^2 + 2718998x - 2343237$	$[0, -1, 2, 1]$	$-x^2 - 3/2x + 1$	0	0.2955	0.5626
36	$-2279854x^2 + 3320653x - 1203310$	$[1, 2, 2, 1]$	$2/3x^2 - 1/3x + 2/3$	-1	0.3292	0.5277
37	$3370217x^2 - 601655x - 1139927$	$[0, 1, -1, 1]$	$1/2x$	0	0.1149	0.1317
38	$2293673x^2 + 6803817x - 5663890$	$[1, 2, 0, 1]$	$2x^2 + x - 2$	1	0.1892	0.3418
39	$-12390505x^2 + 5125618x + 2216471$	$[1, -3, 0, 1]$	$x^2 - 1/2x$	1	0.07553	0.09087
40	$-29213952x^2 + 28382833x - 5818294$	$[1, 2, 3, 1]$	$-2x^2 - 3x + 2$	1	0.3994	0.7923

41	$18208799x^2 + 32815775x - 30599304$	$[1, -6, 2, 1]$	$-2/3x^2 - 2/3x + 1/3$	1	0.2140	0.46
42	$-41604457x^2 + 33508451x - 3601823$	$[1, 1, 0, 1]$	$x^2 - 1/2x$	1	0.04141	0.06
43	$115825005x^2 + 153827639x - 157429462$	$[2, 5, -2, 1]$	$-2x^2 - x + 2$	2	0.2395	0.59
44	$117609725x^2 - 194539736x + 77822371$	$[1, -8, -1, 2]$	$-x^2 + 1/2x$	1	0.04403	0.06
45	$-662333939x^2 - 702121293x + 779943664$	$[2, -5, 0, 1]$	$-2x^2 - x + 2$	2	0.2858	0.72
46	$859518372x^2 - 350184478x - 157397079$	$[1, 8, -1, 2]$	$x^2 - 1/2x - 1$	1	0.3053	0.36
47	$197184433x^2 - 1052305771x + 622546585$	$[0, 1, 1, 1]$	$-x^2 - x + 1$	0	0.06264	0.08
48	$2893349274x^2 - 2297398941x + 228177719$	$[1, 1, 4, 1]$	$-2x + 1$	-1	0.1683	0.27
49	$-653539871x^2 - 5418925934x + 3972251297$	$[1, 7, -1, 1]$	$-x^2 - x + 1$	-1	0.08077	0.12
50	$8223692384x^2 - 13363428528x + 5279331039$	$[1, 3, 1, 1]$	$-2x + 1$	-1	0.1745	0.26
51	$-25698967104x^2 + 5279331039x + 8223692384$	$[1, 6, -3, 1]$	$x$	-1	0.4374	0.50
52	$-9905122207x^2 - 26866451951x + 22754605759$	$[1, 2, 1, 1]$	$x^2 + 1/2x - 1$	-1	0.09655	0.17
53	$14112415074x^2 - 72375663469x + 42564850173$	$[1, -1, 2, 1]$	$-2x + 1$	-1	0.2489	0.34
54	$-93544286080x^2 + 42564850173x + 14112415074$	$[1, 4, -2, 1]$	$x$	-1	0.2818	0.34
55	$-107656701154x^2 + 114940513642x - 28452435099$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.2024	0.39
56	$-75224578139x^2 - 129052928716x + 121996721179$	$[1, 2, 1, 1]$	$2/3x^2 + 2/3x - 1/3$	-1	0.1083	0.24
57	$-308857688388x^2 + 272445877457x - 42792455124$	$[1, 2, 0, 1]$	$-2x^2 + x$	-1	0.1494	0.26
58	$469667176775x^2 + 602699793407x - 624096020969$	$[2, -5, -1, 1]$	$-x^2 - 1/2x + 1$	-2	0.1232	0.30
59	$-1310655331691x^2 + 960730581112x - 49173099317$	$[1, 4, 0, 1]$	$2x^2 - x - 1$	-2	0.4125	0.63
60	$-1514257275202x^2 - 287461460826x + 890161254233$	$[1, -3, 1, 2]$	$-1/3 - 2/3x$	-1	0.4323	0.59
61	$-840988154916x^2 + 1563430374519x - 673269120286$	$[1, 1, 0, 1]$	$-2x^2 - x + 2$	-1	0.1861	0.27
62	$-2824912606893x^2 + 673269120286x + 840988154916$	$[1, 1, 0, 1]$	$-x$	-1	0.4118	0.47
63	$-2657193572263x^2 - 2741053089578x + 3077687649721$	$[1, -2, 1, 1]$	$x^2 + 1/2x - 1/2$	-1	0.1457	0.36
64	$-3833619796439x^2 + 5651021704669x - 2068980460175$	$[1, 2, -1, 1]$	$-2x^2 + x + 1$	-1	0.3729	0.59
65	$6323094334072x^2 + 504353594773x - 3245406684351$	$[1, -2, -1, 1]$	$2/3x + 1/3$	-1	0.3665	0.46
66	$1176426224176x^2 - 8392074794247x + 5146668109896$	$[1, -1, 0, 1]$	$-2x^2 - x + 2$	-1	0.2608	0.36
67	$-10156714130511x^2 + 5146668109896x + 1176426224176$	$[1, -1, 0, 1]$	$x$	-1	0.2589	0.32
68	$-11333140354687x^2 + 13538742904143x - 3970241885720$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 1$	0	0.2188	0.39
69	$14126956016231x^2 + 12141835073371x - 14715169128319$	$[1, -2, -1, 1]$	$-1/3x^2 + 1/6x + 2/3$	-1	0.1619	0.42
70	$25460096370918x^2 - 1396907830772x - 10744927242599$	$[0, -1, 1, 1]$	$-2x^2 - x + 1$	0	0.2890	0.34
71	$-32822994839885x^2 + 32224153918182x - 6764057547264$	$[1, 2, 0, 1]$	$2x^2 + 2x - 2$	-1	0.1315	0.26
72	$71811206305331x^2 + 52317100572608x - 68429177531699$	$[2, 3, 1, 1]$	$-x^2 - 1/2x + 1/2$	-2	0.1875	0.45
73	$97870143597952x^2 - 22876134506355x - 29440966066253$	$[1, -3, 1, 2]$	$-2x^2 - x + 1$	-1	0.2076	0.23
74	$169681349903283x^2 + 29440966066253x - 97870143597952$	$[0, 1, 1, 1]$	$-x$	0	0.4229	0.57
75	$-84940869425127x^2 + 182610624076108x - 84740480478156$	$[1, 2, -2, 1]$	$2x^2 + x - 2$	1	0.1979	0.28
76	$352291973979391x^2 + 218616421702259x - 309921733740313$	$[1, 2, 1, 1]$	$-x^2 - 1/2x + 1/2$	1	0.2195	0.47
77	$-352492362926362x^2 + 176045792516210x + 42570629186049$	$[1, 2, -1, 1]$	$2x^2 + x - 1$	1	0.1310	0.16
78	$-704784336905753x^2 - 42570629186049x + 352492362926362$	$[0, -1, 1, 1]$	$-x$	0	0.3548	0.44
79	$-85341647319069x^2 + 971935052513046x - 619442689586684$	$[1, 2, 2, 1]$	$-2x^2 - x + 2$	1	0.2726	0.38
80	$-1142618347151184x^2 + 1105410215843207x - 224379697474273$	$[1, 1, 1, 1]$	$1/2 - x$	1	0.06692	0.13

Number:  $\xi = .7174\dots$  Equation:  $2x^3 + 3x^2 + x - 3 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 2/3$	0	0.2027	0.4055
2	$-2x^2 + 1$	$[1, 0, -2, 1]$	$2/3x - 1/3$	-1	0.1175	0.1469
3	$-3x^2 - 2x + 3$	$[1, 2, 3, 1]$	$-x$	-1	0.1897	0.4638
4	$-5x^2 - 2x + 4$	$[0, 1, 1, 1]$	$-2/3x^2 - x + 2/3$	0	0.2076	0.3737
5	$2x^2 - 7x + 4$	$[1, -5, 3, 1]$	$2/3x^2 - 1/3x - 1$	1	0.3646	0.5134
6	$-3x^2 - 9x + 8$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	0	0.06994	0.1330
7	$-6x^2 + 28x - 17$	$[1, -1, -4, 1]$	$2x - 1$	-1	0.2944	0.4164
8	$-34x^2 - 23x + 34$	$[1, 8, 2, 1]$	$2/3x^2 + 1/3x$	-1	0.2527	0.6211
9	$43x^2 - 42x + 8$	$[1, -2, -1, 1]$	$x^2 - 1$	-1	0.1962	0.3901
10	$71x^2 + 9x - 43$	$[1, -1, 1, 1]$	$-2/3x$	-1	0.2558	0.3538
11	$52x^2 - 107x + 50$	$[1, 2, 0, 1]$	$-x^2 - 1/2x + 1$	-1	0.07355	0.1070
12	$185x^2 - 24x - 78$	$[1, 2, 0, 1]$	$-x$	-1	0.1577	0.1884
13	$237x^2 - 131x - 28$	$[0, 1, 1, 1]$	$-2/3x^2 - x + 2/3$	0	0.1020	0.1345
14	$314x^2 + 579x - 577$	$[1, -6, 3, 1]$	$2/3x^2 - 1/3x - 1$	1	0.5453	1.247
15	$551x^2 + 448x - 605$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x + 1/2$	0	0.06910	0.1643
16	$1555x^2 - 703x - 296$	$[2, 5, 0, 1]$	$-2x^2 - x + 1$	-2	0.3409	0.4229
17	$2106x^2 - 255x - 901$	$[0, 1, 1, 1]$	$-2/9x^2 - 7/9x + 1/3$	0	0.2120	0.2539
18	$-2353x^2 + 3167x - 1061$	$[1, 5, -5, 2]$	$x^2 + x - 1$	1	0.1113	0.1852
19	$7873x^2 - 1468x - 2999$	$[1, 3, 0, 1]$	$x - 1/2$	1	0.1495	0.1764
20	$-4228x^2 - 9987x + 9341$	$[1, -4, -2, 1]$	$-2/3x^2 - 1/3x$	1	0.1401	0.2877
21	$3645x^2 - 11455x + 6342$	$[0, 1, 1, 1]$	$-x$	0	0.1322	0.1861
22	$-583x^2 - 21442x + 15683$	$[0, 1, 2, 1]$	$-2/3x^2 - x + 2/3$	0	0.1825	0.2802
23	$-38073x^2 - 948x + 20276$	$[1, -4, 1, 1]$	$-2/3x^2 + 1/3x$	1	0.05983	0.07683
24	$42448x^2 - 129172x + 70823$	$[2, 5, -1, 1]$	$2x^2 + x - 2$	2	0.1744	0.2456
25	$-192844x^2 + 49599x + 63672$	$[1, 9, -1, 2]$	$x$	1	0.2788	0.3276
26	$-235292x^2 + 178771x - 7151$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 2/3$	0	0.1635	0.2580
27	$-103573x^2 - 338865x + 296417$	$[1, 3, 1, 1]$	$2/3x^2 + 2/3x$	1	0.2785	0.5177
28	$131719x^2 - 517636x + 303568$	$[0, -1, 1, 1]$	$1/2 - x$	0	0.1413	0.1991
29	$-635282x^2 - 449360x + 649355$	$[1, 1, 2, 1]$	$-2/3x^2 - 1/3x$	1	0.1295	0.3154
30	$-503563x^2 - 966996x + 952923$	$[0, 1, 1, 1]$	$-x$	0	0.2060	0.4619
31	$-1138845x^2 - 1416356x + 1602278$	$[0, 1, 2, 1]$	$-2/3x^2 - x + 2/3$	0	0.2228	0.5094
32	$1058585x^2 - 1960049x + 861334$	$[1, 4, -1, 1]$	$2/3x^2 - 1/3x$	1	0.03466	0.05147
33	$-8154438x^2 + 2624132x + 2314421$	$[1, 3, -4, 1]$	$2x - 1$	1	0.2609	0.3089
34	$5642766x^2 + 10975821x - 10778570$	$[1, -9, -2, 1]$	$-2/3x^2 - 1/3x$	1	0.2752	0.6134
35	$-2511672x^2 + 13599953x - 8464149$	$[0, 1, 1, 1]$	$-x$	0	0.3031	0.4309
36	$17367461x^2 - 7208313x - 3767508$	$[1, -2, 0, 1]$	$x$	-1	0.3547	0.4325
37	$19879133x^2 - 20808266x + 4696641$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 2/3$	0	0.2005	0.3938
38	$40377688x^2 - 3440805x - 18313586$	$[1, 0, 2, 1]$	$1/3 - 2/3x$	-1	0.1094	0.1328
39	$-64007337x^2 - 38502430x + 60566532$	$[1, 2, -3, 1]$	$x$	-1	0.1973	0.4454
40	$-104385025x^2 - 35061625x + 78880118$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 2/3$	0	0.2067	0.3481



41	$29745562x^2 - 153519581x + 94828307$	[1, 5, 3, 1]	$2/3x^2 - 1/3x - 1$	-1	0.4006	0.5
42	$-74639463x^2 - 188581206x + 173708425$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.07015	0.1
43	$-78604560x^2 + 610637519x - 397626814$	[1, -1, -4, 1]	$2x - 1$	1	0.3199	0.4
44	$-724579262x^2 - 440894191x + 689242079$	[1, 8, 2, 1]	$2/3x^2 + 1/3x$	1	0.2622	0.5
45	$807148919x^2 - 968962053x + 279719974$	[1, -2, -1, 1]	$x^2 - 1$	1	0.2276	0.4
46	$1453123621x^2 + 82569657x - 807148919$	[1, -1, 1, 1]	$-2/3x$	1	0.2448	0.3
47	$889718576x^2 - 2378818297x + 1248682027$	[1, 2, 0, 1]	$-x^2 - 1/2x + 1$	1	0.08305	0.1
48	$3713396161x^2 - 803822739x - 1334577864$	[1, 2, 0, 1]	$-x$	1	0.1452	0.1
49	$4603114737x^2 - 3182641036x - 85895837$	[0, 1, 1, 1]	$-2/3x^2 - x + 2/3$	0	0.08788	0.1
50	$7255000648x^2 + 11944011222x - 12302974673$	[1, -6, 3, 1]	$2/3x^2 - 1/3x - 1$	-1	0.5625	1.1
51	$11858115385x^2 + 8761370186x - 12388870510$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.06619	0.1
52	$30442366007x^2 - 17520850658x - 3098634913$	[2, 5, 0, 1]	$-2x^2 - x + 1$	2	0.2985	0.4
53	$-42300481392x^2 + 8759480472x + 15487505423$	[0, -1, -1, 1]	$2/9x^2 + \frac{7}{9}x - 1/3$	0	0.1954	0.2
54	$-42833126231x^2 + 71677557721x - 29377076329$	[1, 5, -5, 2]	$-x^2 - x + 1$	1	0.1302	0.1
55	$157343810183x^2 - 43799292074x - 49561151182$	[1, -3, 0, 1]	$x - 1/2$	1	0.1364	0.1
56	$101054634050x^2 + 207871127208x - 201143102257$	[1, 4, 2, 1]	$2/3x^2 + 1/3x$	1	0.1387	0.3
57	$-56289176133x^2 + 251670419282x - 151581951075$	[0, -1, 1, 1]	$-x$	0	0.1458	0.2
58	$44765457917x^2 + 459541546490x - 352725053332$	[0, -1, 2, 1]	$-2/3x^2 - x + 2/3$	0	0.1915	0.3
59	$-773263001013x^2 + 39003598809x + 370010630656$	[1, -4, -1, 1]	$2/3x^2 - 1/3x$	-1	0.05638	0.0
60	$111248937319x^2 + 2801048571014x - 2066789168810$	[2, 5, 0, 1]	$-2x^2 - x + 1$	-2	0.5525	0.8
61	$-662014063694x^2 + 2840052169823x - 1696778538154$	[0, 1, 1, 1]	$-2/9x^2 - \frac{7}{9}x + 1/3$	0	0.1926	0.2
62	$3833073265364x^2 - 1365771506307x - 993021095541$	[1, -10, -1, 2]	$x$	1	0.2516	0.3
63	$4495087329058x^2 - 4205823676130x + 703757442613$	[0, -1, 1, 1]	$-2/3x^2 - x + 2/3$	0	0.1363	0.2
64	$2620294075295x^2 + 7115381404353x - 6453367340659$	[1, 2, 1, 1]	$2/3x^2 + 2/3x$	1	0.2805	0.5
65	$10948454669717x^2 + 1543786221916x - 6742630993587$	[1, 1, 1, 1]	$-x^2 - 1/2x$	1	0.5801	0.8
66	$1874793253763x^2 - 11321205080483x + 7157124783272$	[1, -1, 0, 1]	$-2/3x^2 - 1/3x + 1/3$	1	0.1544	0.2
67	$13568748745012x^2 + 8659167626269x - 13195998334246$	[1, 1, 0, 1]	$2/3x^2 + 1/3x$	1	0.1292	0.3
68	$11693955491249x^2 + 19980372706752x - 20353123117518$	[0, -1, 1, 1]	$-x$	0	0.2085	0.4
69	$25262704236261x^2 + 28639540333021x - 33549121451764$	[0, -1, 2, 1]	$-2/3x^2 - x + 2/3$	0	0.2231	0.5
70	$43710331921030x^2 - 15101493766995x - 11663253312263$	[1, 3, 2, 1]	$-2/3x^2 + 1/3x + 1$	-1	0.3394	0.4
71	$18447627684769x^2 - 43741034100016x + 21885868139501$	[0, -1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.03944	0.0
72	$161272578939108x^2 - 69065142694249x - 33457014914806$	[1, -1, 4, 1]	$-2x + 1$	-1	0.2331	0.2
73	$-131253804479034x^2 - 226899481178625x + 230337721633357$	[1, 8, -2, 1]	$-2/3x^2 - 1/3x$	-1	0.2769	0.6
74	$30018774460074x^2 - 295964623872874x + 196880706718551$	[0, 1, 1, 1]	$-x$	0	0.3280	0.4
75	$340992785562985x^2 - 181871319488514x - 45028161690111$	[1, 2, 0, 1]	$-x$	1	0.3124	0.4
76	$-442227815581945x^2 - 340992785562985x + 472246590042019$	[1, 1, -1, 1]	$-4/9x^2 - 2/9$	1	0.2702	0.6
77	$371011560023059x^2 - 477835943361388x + 151852545028440$	[1, 1, 0, 1]	$x^2 + 1/2x$	1	0.2416	0.4
78	$813239375605004x^2 - 136843157798403x - 320394045013579$	[0, -1, 1, 1]	$1/3 - 2/3x$	0	0.1014	0.1
79	$-1356702221205909x^2 - 727013732816081x + 1219859063407506$	[1, 3, -1, 1]	$x$	1	0.2025	0.4
80	$-2169941596810913x^2 - 590170575017678x + 1540253108421085$	[0, -1, 1, 1]	$-2/3x^2 - x + 2/3$	0	0.2041	0.3

Number:  $\xi = .5832\dots$  Equation:  $2x^3 + 3x^2 + x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-1/2x^2 + 1/4x + 1/4$	-1	0.07677	0.2303
2	$-3x^2 + 1$	$[1, -2, 1, 1]$	$-2x^2 - x + 1$	-1	0.1819	0.2021
3	$-x^2 + 4x - 2$	$[1, -4, 2, 1]$	$-x^2 - 1/2x + 1$	-1	0.1191	0.1564
4	$x^2 + 8x - 5$	$[0, -1, 2, 1]$	$-x^2 - 3/2x + 1/2$	0	0.3406	0.4790
5	$-12x^2 + 7x$	$[1, 3, 2, 1]$	$1/2x^2 - 3/4x + 1/2$	-1	0.1783	0.2390
6	$-12x^2 + 19x - 7$	$[1, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	-1	0.3195	0.4904
7	$13x^2 + 25x - 19$	$[1, -3, 2, 1]$	$-1/2x^2 - 1/4x + 1/2$	-1	0.1019	0.1883
8	$-73x^2 + 46x - 2$	$[2, 3, -1, 1]$	$2x^2 - x$	-2	0.08426	0.1178
9	$71x^2 - 122x + 47$	$[1, -5, -3, 2]$	$x^2 + 3/2x - 1/2$	-1	0.1682	0.2502
10	$144x^2 - 168x + 49$	$[0, -1, 1, 1]$	$-1/2x^2 - 5/4x + 1/2$	0	0.1273	0.2316
11	$169x^2 + 313x - 240$	$[1, -7, -5, 1]$	$x^2 + x$	-1	0.4079	0.7666
12	$384x^2 + 23x - 144$	$[1, 1, 1, 1]$	$-x^2 - 1/2x$	-1	0.3878	0.4437
13	$359x^2 - 458x + 145$	$[1, -1, 1, 1]$	$-x^2 - 1/2x + 3/2$	-1	0.4790	0.8213
14	$-25x^2 - 481x + 289$	$[0, -1, 1, 1]$	$-3/7x^2 - 1/2x + 2/7$	0	0.08010	0.1092
15	$862x^2 - 1084x + 339$	$[1, -1, 3, 1]$	$-2x + 1$	-1	0.06765	0.1171
16	$-2377x^2 - 92x + 862$	$[1, 6, -3, 1]$	$x$	-1	0.1897	0.2149
17	$-3239x^2 + 992x + 523$	$[0, -1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.2518	0.2820
18	$-3708x^2 - 5093x + 4231$	$[1, 4, 3, 1]$	$x^2 + 1/2x$	-1	0.3932	0.8730
19	$-5616x^2 + 900x + 1385$	$[1, 1, 0, 1]$	$-x^2 - 1/2x$	-1	0.3020	0.3281
20	$469x^2 + 6085x - 3708$	$[1, -1, 0, 1]$	$-x^2 - x$	-1	0.3273	0.4508
21	$-5147x^2 + 6985x - 2323$	$[0, 1, 1, 1]$	$1/2 - x$	0	0.03587	0.05931
22	$-23763x^2 - 31734x + 26587$	$[3, 2, -3, 1]$	$2x^2 + x - 1$	3	0.1949	0.4410
23	$-34558x^2 + 6484x + 7971$	$[1, 11, 2, 3]$	$-x^2 - 1/2x$	1	0.1460	0.1589
24	$-58321x^2 - 25250x + 34558$	$[0, 1, 1, 1]$	$-x$	0	0.2425	0.3731
25	$-61295x^2 + 89905x - 31584$	$[1, -2, 3, 1]$	$-2x^2 - x + 1$	-1	0.1517	0.2410
26	$-182784x^2 - 152687x + 151200$	$[2, 3, -1, 1]$	$x^2 + 1/2x$	-2	0.3962	0.9437
27	$-212495x^2 + 45889x + 45503$	$[1, 3, 1, 2]$	$-x^2 - 1/2x + 1/2$	-1	0.07049	0.07701
28	$213267x^2 + 683760x - 471265$	$[2, -3, 1, 1]$	$-2x^2 - x + 1$	-2	0.1922	0.3022
29	$-941758x^2 - 257612x + 470493$	$[1, 7, -1, 2]$	$x^2 + 1/2x$	-1	0.2303	0.3050
30	$-1155025x^2 - 941372x + 941758$	$[0, -1, 1, 1]$	$-x$	0	0.2020	0.4704
31	$-514452x^2 + 1839557x - 897799$	$[1, 3, 1, 1]$	$-x^2 + 1/2x + 1/2$	-1	0.2313	0.3045
32	$-2611235x^2 + 640573x + 514452$	$[1, 1, 1, 1]$	$-x$	-1	0.2718	0.2987
33	$-3125687x^2 + 2480130x - 383347$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.2784	0.4579
34	$-2737356x^2 - 3979913x + 3251808$	$[1, -2, 1, 1]$	$1/4x^2 - 3/8x - 3/4$	1	0.3988	0.8538
35	$126121x^2 + 4620486x - 2737356$	$[1, 0, -1, 1]$	$x$	1	0.3135	0.4238
36	$-5736922x^2 + 3120703x + 131105$	$[1, 1, 1, 1]$	$1/2x^2 - 1/4x + 3/4$	1	0.3742	0.4851
37	$5863043x^2 + 1499783x - 2868461$	$[0, 1, -1, 1]$	$1/2x$	0	0.1140	0.1487
38	$8736488x^2 - 10221319x + 2989598$	$[1, 0, -2, 1]$	$-2x^2 - x + 2$	-1	0.2551	0.4634
39	$2873445x^2 - 11721102x + 5858059$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/4x + 1/4$	0	0.1199	0.1571
40	$-20452606x^2 - 13099748x + 14594547$	$[1, -4, 1, 1]$	$-x^2 - 1/2x$	-1	0.2306	0.4427

41	$-17579161x^2 - 24820850x + 20452606$	$[0, 1, 1, 1]$	$-x$	0	0.1981	0.4319
42	$34935984x^2 - 20563775x + 111169$	$[1, 2, -1, 1]$	$x^2 - 1/2x - 1/2$	1	0.1772	0.2386
43	$-55610928x^2 - 62741448x + 55499759$	$[1, 2, 0, 1]$	$-x^2 - 1/2x$	1	0.3609	0.9269
44	$52292807x^2 - 65948400x + 20674944$	$[1, 2, 0, 1]$	$x^2$	1	0.1356	0.2342
45	$-128578679x^2 - 80098271x + 90435743$	$[1, 2, -1, 1]$	$-1/2x^2 + 1/4x + 1/4$	1	0.1164	0.2191
46	$-212489349x^2 + 135103752x - 6525073$	$[1, -3, 0, 1]$	$-2x^2 - x + 1$	1	0.08369	0.1176
47	$354118174x^2 + 389548436x - 347593101$	$[1, -4, 1, 1]$	$-x^2 - 1/2x$	1	0.1777	0.4659
48	$141628825x^2 + 524652188x - 354118174$	$[0, 1, 1, 1]$	$-x$	0	0.1879	0.2872
49	$495746999x^2 + 914200624x - 701711275$	$[0, 1, 2, 1]$	$-x^2 - 3/2x + 1/2$	0	0.4079	0.7681
50	$-978536075x^2 + 460316737x + 64335451$	$[1, 4, 0, 1]$	$1/2x^2 - 3/4x - 1/2$	1	0.3586	0.4395
51	$1120164900x^2 + 64335451x - 418453625$	$[1, 0, -1, 1]$	$2/7x^2 + x + 1/7$	1	0.3868	0.4420
52	$-482789076x^2 + 1374517361x - 637375824$	$[1, 1, 0, 1]$	$x^2 + 1/2x - 1$	1	0.2145	0.2871
53	$-2098700975x^2 + 395981286x + 482789076$	$[1, -1, 0, 1]$	$-x$	1	0.2916	0.3175
54	$2253287723x^2 + 2417388887x - 2175994349$	$[1, 2, -1, 1]$	$-1/2x^2 + 1/4x + 1/4$	1	0.08735	0.2340
55	$-5008393354x^2 + 6354367467x - 2002378769$	$[2, 3, 1, 1]$	$2x^2 - x - 1$	2	0.5450	0.9378
56	$-6933478749x^2 - 250908954x + 2504196677$	$[1, -3, 1, 2]$	$-1/2x$	1	0.1892	0.2141
57	$-2755105631x^2 + 8771756354x - 4178373118$	$[1, 1, 0, 1]$	$-x^2 - 1/2x + 1$	1	0.1116	0.1479
58	$1423267487x^2 + 17794421662x - 10860942913$	$[0, -1, 2, 1]$	$-x^2 - 3/2x + 1/2$	0	0.3281	0.4525
59	$-1331838144x^2 + 26566178016x - 15039316031$	$[0, -1, 3, 1]$	$-1/2x^2 - 5/4x + 1/2$	0	0.2918	0.3861
60	$-28563935232x^2 + 14373396959x + 1331838144$	$[1, 3, 1, 1]$	$-x$	-1	0.1967	0.2470
61	$-29895773376x^2 + 40939574975x - 13707477887$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.2889	0.4753
62	$27323526431x^2 + 56553380735x - 42271413119$	$[1, 2, -1, 1]$	$-1/2x^2 - 1/4x + 1/2$	1	0.1015	0.1819
63	$-3812655746x^2 + 168419733404x - 96918465981$	$[1, 1, 2, 1]$	$-2x + 1$	1	0.1497	0.1994
64	$-174138717023x^2 + 95012138108x + 3812655746$	$[1, -5, 2, 1]$	$-x$	1	0.09336	0.1212
65	$177951372769x^2 - 263431871512x + 93105810235$	$[0, -1, -1, 1]$	$x^2 + 3/2x - 1/2$	0	0.1527	0.2415
66	$-352090089792x^2 + 358444009620x - 89293154489$	$[0, 1, 2, 1]$	$1/2x^2 + 5/4x - 1/2$	0	0.1128	0.2287
67	$356537681747x^2 + 708627771539x - 534489054516$	$[1, 5, -2, 1]$	$-x^2 - x$	-1	0.4070	0.7417
68	$886579144308x^2 + 86751890407x - 352090089792$	$[1, -1, 1, 1]$	$-x^2 - 1/2x$	-1	0.4025	0.4698
69	$-882131552353x^2 + 980319890752x - 271692119213$	$[1, 1, -1, 1]$	$x^2 + 1/2x - 3/2$	-1	0.4273	0.8061
70	$4447591955x^2 + 1067071781159x - 623782209005$	$[0, 1, 1, 1]$	$-3/7x^2 - 1/2x + 2/7$	0	0.07675	0.1030
71	$2116353194498x^2 - 2319083791124x + 632677392915$	$[1, -1, -3, 1]$	$2x - 1$	1	0.06029	0.1150
72	$5493613582871x^2 + 425499204334x - 2116353194498$	$[1, 6, 3, 1]$	$-x$	1	0.1973	0.2278
73	$7609966777369x^2 - 1893584586790x - 1483675801583$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.2706	0.2977
74	$8019875562576x^2 + 11619904558657x - 9503551364159$	$[1, -4, 3, 1]$	$x^2 + 1/2x$	-1	0.3986	0.8550
75	$13103580360240x^2 - 1468085382456x - 3600028996081$	$[1, 1, 0, 1]$	$-x^2 - 1/2x$	-1	0.3201	0.3483
76	$-409908785207x^2 - 13513489145447x + 8019875562576$	$[1, -1, 0, 1]$	$-x^2 - x$	-1	0.3143	0.4253
77	$12693671575033x^2 - 14981574527903x + 4419846566495$	$[0, 1, 1, 1]$	$1/2 - x$	0	0.03213	0.05799
78	$51496513763829x^2 + 72464010347400x - 59770338772367$	$[3, 2, -3, 1]$	$2x^2 + x - 1$	3	0.1979	0.4325
79	$80737835355938x^2 - 11127596085860x - 20967496583571$	$[1, 11, 2, 3]$	$-x^2 - 1/2x$	1	0.1552	0.1686
80	$132234349119767x^2 + 61336414261540x - 80737835355938$	$[0, 1, 1, 1]$	$-x$	0	0.2427	0.3855

Number:  $\xi = .3982\dots$  Equation:  $2x^3 + 3x^2 + x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - 2x + 1$	[1, -2, -1, 1]	$-2x^2 - x + 1$	-1	0.1806	0.2709
2	$-x^2 + 3x - 1$	[1, -2, -1, 1]	$2x$	-1	0.3236	0.3955
3	$4x^2 + x - 1$	[1, -2, -1, 1]	$x + 1/2$	-1	0.5166	0.5812
4	$5x^2 - 2x$	[0, -1, 1, 1]	$-2x^2 - 2x + 1$	0	0.09153	0.1062
5	$10x^2 - 9x + 2$	[1, -3, 2, 1]	$-2x^2 - 3x + 1$	-1	0.1873	0.3465
6	$9x^2 + 14x - 7$	[1, 7, -3, 1]	$x^2 + x$	-1	0.2044	0.3399
7	$-x^2 + 23x - 9$	[0, -1, 1, 1]	$-2x$	0	0.4392	0.5073
8	$24x^2 + 3x - 5$	[1, 1, 1, 1]	$x + 1/2$	-1	0.4295	0.4549
9	$25x^2 - 20x + 4$	[0, -1, 1, 1]	$-2x^2 - 2x + 1$	0	0.05285	0.08802
10	$-42x^2 + 77x - 24$	[1, 3, -2, 1]	$2x^2 + 3x - 1$	-1	0.2564	0.3577
11	$73x^2 + 94x - 49$	[1, 7, 3, 1]	$-x^2 - x$	-1	0.2128	0.3989
12	$140x^2 - 3x - 21$	[1, -1, 1, 1]	$-2x^2 - x$	-1	0.3375	0.3453
13	$-109x^2 + 174x - 52$	[1, 1, -1, 1]	$2x^2 + 2x - 1$	-1	0.05912	0.08760
14	$-114x^2 + 613x - 226$	[1, 1, 3, 1]	$-2x^2 - 3x + 1$	-1	0.3754	0.4394
15	$561x^2 + 618x - 335$	[1, -7, 3, 1]	$-x^2 - x$	-1	0.2124	0.4498
16	$-784x^2 + 169x + 57$	[1, 1, -1, 1]	$2x^2 + x$	-1	0.2445	0.2571
17	$-1345x^2 - 449x + 392$	[0, -1, 1, 1]	$-x$	0	0.2865	0.3427
18	$-337x^2 + 1400x - 504$	[1, 1, 1, 1]	$-2x^2 - x + 1$	-1	0.08839	0.1050
19	$-3811x^2 + 671x + 337$	[1, 2, 1, 1]	$-2x$	-1	0.5216	0.5418
20	$-4145x^2 - 3978x + 2241$	[1, -3, 1, 1]	$x^2 + 1/2x$	-1	0.2206	0.4884
21	$-4148x^2 + 2071x - 167$	[1, 1, 0, 1]	$-2x^2 - x$	-1	0.1580	0.1977
22	$8293x^2 + 1907x - 2074$	[0, -1, -1, 1]	$x$	0	0.2515	0.2805
23	$331x^2 + 10698x - 4312$	[1, -2, 1, 1]	$2x^2 + x - 1$	-1	0.1192	0.1387
24	$-20072x^2 + 19653x - 4643$	[1, -2, 2, 1]	$-2x + 1$	-1	0.08546	0.1720
25	$49761x^2 + 5393x - 10036$	[1, 4, -2, 1]	$x$	-1	0.2091	0.2201
26	$-18903x^2 - 78700x + 34332$	[1, -4, -2, 1]	$-2x^2 - x + 1$	-1	0.1490	0.1859
27	$-100691x^2 + 87567x - 18903$	[1, -2, -1, 1]	$2x$	-1	0.1942	0.3479
28	$-81788x^2 + 166267x - 53235$	[0, -1, 1, 1]	$-x^2 - 3/2x + 1/2$	0	0.1354	0.1821
29	$288949x^2 - 12341x - 40894$	[1, -2, -2, 1]	$x$	-1	0.1629	0.1664
30	$520792x^2 + 549345x - 301290$	[1, 3, 3, 1]	$2x^2 + x$	-1	0.4210	0.9260
31	$231843x^2 + 561686x - 260396$	[0, -1, 1, 1]	$-x$	0	0.1752	0.2428
32	$-427843x^2 + 752635x - 231843$	[1, -3, 1, 1]	$-2x$	-1	0.2506	0.3553
33	$1180478x^2 + 358396x - 329843$	[1, 1, -1, 1]	$x + 1/2$	-1	0.5536	0.6479
34	$-196000x^2 + 1314321x - 492239$	[1, 1, 0, 1]	$2x^2 + x - 1$	-1	0.1954	0.2272
35	$-1608321x^2 + 394239x + 98000$	[1, -1, 0, 1]	$-x$	-1	0.1165	0.1240
36	$-3412642x^2 + 2102799x - 296239$	[0, 1, 2, 1]	$-2x^2 - 3x + 1$	0	0.2684	0.3723
37	$2200799x^2 + 3907120x - 1904560$	[1, 3, -1, 1]	$-x^2 - x$	1	0.1958	0.3045
38	$-1211843x^2 + 6009919x - 2200799$	[0, 1, 1, 1]	$-2x$	0	0.3690	0.4334
39	$-7221762x^2 - 1410082x + 1706321$	[1, 1, -1, 1]	$-1/2 - x$	-1	0.4785	0.5235
40	$-8433605x^2 + 4599837x - 494478$	[0, 1, 1, 1]	$-2x^2 - 2x + 1$	0	0.07399	0.09626

41	$-15878254x^2 + 19116713x - 5094315$	$[1, 3, 2, 1]$	$-2x^2 - 3x + 1$	1	0.1945	0.3425
42	$-24311859x^2 + 23716550x - 5588793$	$[0, 1, 1, 1]$	$-x^2 - 2x$	0	0.3003	0.6020
43	$-18622235x^2 - 26561362x + 13527920$	$[1, 7, -3, 1]$	$2/7x^2 - 1/7x - 4/7$	-1	0.2090	0.3660
44	$-40190113x^2 + 42833263x - 10683108$	$[1, 1, 0, 1]$	$-2x^2 + x$	-1	0.04408	0.08563
45	$59014010x^2 - 157905963x + 53516371$	$[1, 2, -3, 1]$	$2x^2 + 3x - 1$	-1	0.3064	0.3844
46	$147222855x^2 + 176729860x - 93706484$	$[1, -10, -4, 1]$	$x^2 + x$	-1	0.2137	0.4221
47	$-246426978x^2 + 24009366x + 29507005$	$[1, -1, -1, 1]$	$2x^2 + x$	-1	0.2972	0.3042
48	$158218133x^2 - 358645189x + 117715850$	$[1, -1, -1, 1]$	$2x^2 + 2x - 1$	-1	0.07137	0.09294
49	$1110940211x^2 + 1151442494x - 634579172$	$[3, -4, -2, 1]$	$2x^2 + x - 1$	-3	0.2095	0.4681
50	$-1350162910x^2 + 435858756x + 40502283$	$[1, -10, -2, 3]$	$2x^2 + x$	-1	0.2060	0.2277
51	$-2461103121x^2 - 715583738x + 675081455$	$[0, -1, 1, 1]$	$-x$	0	0.2725	0.3161
52	$-320227265x^2 + 2815957311x - 1070437928$	$[1, 2, 2, 1]$	$-2x^2 - x + 1$	-1	0.1016	0.1176
53	$-6592596417x^2 + 1820648591x + 320227265$	$[1, 2, 1, 1]$	$-2x$	-1	0.4435	0.4783
54	$-6912823682x^2 + 4636605902x - 750210663$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.1247	0.1823
55	$-15005841425x^2 - 2706201178x + 3456411841$	$[1, -2, 2, 1]$	$-x$	1	0.2340	0.2540
56	$2680615387x^2 + 21142868653x - 8843228406$	$[1, 3, -2, 1]$	$-2x^2 - x + 1$	1	0.1323	0.1576
57	$-34243891145x^2 + 20367072199x - 2680615387$	$[1, 2, 1, 1]$	$-2x$	1	0.2763	0.3758
58	$-31563275758x^2 + 41509940852x - 11523843793$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.1039	0.1719
59	$-88854854489x^2 - 4257794086x + 15781637879$	$[1, -2, 2, 1]$	$-x$	-1	0.1895	0.1959
60	$48775990559x^2 + 153412482927x - 68815422524$	$[1, 3, -2, 1]$	$-2x^2 - x + 1$	-1	0.1608	0.2095
61	$-160496994177x^2 + 186406835607x - 48775990559$	$[1, 2, 1, 1]$	$-2x$	-1	0.1891	0.3422
62	$-111721003618x^2 + 339819318534x - 117591413083$	$[0, 1, 1, 1]$	$-x^2 - 3/2x + 1/2$	0	0.1607	0.1974
63	$-507400823961x^2 + 61730911274x + 55860501809$	$[1, -2, 2, 1]$	$-x$	1	0.1427	0.1465
64	$1026542466852x^2 + 1020672057387x - 569131735235$	$[1, 3, -3, 1]$	$-2x^2 - x$	1	0.4177	0.9591
65	$519141642891x^2 + 1082402968661x - 513271233426$	$[0, 1, 1, 1]$	$-x$	0	0.1849	0.2690
66	$-607381008649x^2 + 1545684109743x - 519141642891$	$[1, 3, 1, 1]$	$-2x$	-1	0.3003	0.3805
67	$2153065118392x^2 + 557390916305x - 563261325770$	$[1, 1, -1, 1]$	$x + 1/2$	-1	0.5233	0.5942
68	$-88239365758x^2 + 2628087078404x - 1032412876317$	$[1, 1, 0, 1]$	$2x^2 + x - 1$	-1	0.2220	0.2565
69	$-2760446127041x^2 + 988293193438x + 44119682879$	$[1, -1, 0, 1]$	$-x$	-1	0.09753	0.1101
70	$5609131619840x^2 - 4604673465280x + 944173510559$	$[0, -1, -2, 1]$	$2x^2 + 3x - 1$	0	0.2060	0.3507
71	$4648793148159x^2 + 7453358958079x - 3704619637600$	$[1, 3, -1, 1]$	$x^2 + x$	-1	0.2025	0.3313
72	$960338471681x^2 - 12058032423359x + 4648793148159$	$[0, 1, -1, 1]$	$2x$	0	0.4220	0.4874
73	$-13018370895040x^2 - 1860392299361x + 2804565809920$	$[1, -1, -1, 1]$	$x + 1/2$	1	0.4418	0.4713
74	$-13978709366721x^2 + 10197640123998x - 1844227338239$	$[0, -1, 1, 1]$	$-2x^2 - 2x + 1$	0	0.05776	0.08950
75	$-24268964056964x^2 + 39906671629434x - 12041867462237$	$[1, -3, 2, 1]$	$-2x^2 - 3x + 1$	1	0.2408	0.3518
76	$-38247673423685x^2 + 50104311753432x - 13886094800476$	$[0, 1, 1, 1]$	$-x^2 - 2x$	0	0.3625	0.6015
77	$-38062444291195x^2 - 50196926319677x + 26020576828958$	$[1, 7, -3, 1]$	$2/7x^2 - 1/7x - 4/7$	-1	0.2121	0.3910
78	$-76310117714880x^2 - 92614566245x + 12134482028482$	$[0, 1, 1, 1]$	$-2x^2 - x$	0	0.3506	0.3595
79	$-62516637480649x^2 + 90010983382866x - 25927962262713$	$[1, 1, 0, 1]$	$-2x^2 - 2x + 1$	1	0.05531	0.08658
80	$73177350435872x^2 - 320322491034520x + 115938945645579$	$[1, 1, -3, 1]$	$2x^2 + 3x - 1$	1	0.3583	0.4239

Number:  $\xi = .6360\dots$  Equation:  $2x^3 + 3x^2 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$-2/9x^2 + 1/3x - 2/9$	-1	0.04049	0.1215
2	$-4x^2 + x + 1$	[2, -3, 1, 1]	$-2x^2 - x + 1$	-2	0.2883	0.3243
3	$4 - 5x - 2x^2$	[1, 9, -1, 2]	$1/2x^2 + 1/4x + 1/4$	-1	0.2754	0.4956
4	$2x^2 - 6x + 3$	[0, -1, 1, 1]	$-x$	0	0.2522	0.3432
5	$-9x^2 + x + 3$	[1, 2, 0, 1]	$x$	-1	0.3609	0.4054
6	$-9x^2 - 10x + 10$	[1, 1, 1, 1]	$2/9x^2 - 1/3x + 2/9$	-1	0.04460	0.1253
7	$40x^2 - 5x - 13$	[2, -3, -1, 1]	$2x^2 + x - 1$	-2	0.3176	0.3561
8	$16x^2 + 48x - 37$	[1, -9, -1, 2]	$1/2x^2 + 1/4x + 1/4$	-1	0.2795	0.4766
9	$-24x^2 + 53x - 24$	[0, -1, 1, 1]	$-x$	0	0.2167	0.3056
10	$-89x^2 + 36$	[1, -2, 0, 1]	$-x$	-1	0.3887	0.4523
11	$81x^2 + 101x - 97$	[1, 1, -1, 1]	$-2/9x^2 + 1/3x - 2/9$	-1	0.05011	0.1286
12	$-355x^2 + 361x - 86$	[3, 5, 2, 1]	$2x^2 - x - 1$	-3	0.5295	1.072
13	$396x^2 - 5x - 157$	[1, 7, -2, 3]	$1/7x^2 + \frac{9}{14}x + 1/14$	-1	0.3428	0.3967
14	$122x^2 + 457x - 340$	[1, 1, 1, 1]	$1/2x^2 + 1/4x + 1/4$	-1	0.2791	0.4534
15	$-274x^2 + 462x - 183$	[0, -1, 1, 1]	$-x$	0	0.1814	0.2737
16	$-873x^2 - 91x + 411$	[1, -1, -1, 1]	$-x$	-1	0.4119	0.5077
17	$-152x^2 + 919x - 523$	[1, 1, 0, 1]	$-2/9x^2 + 1/3x + \frac{7}{9}$	-1	0.4108	0.5551
18	$721x^2 + 1010x - 934$	[0, -1, 1, 1]	$-1/2x^2 - 1/4x + 1/4$	0	0.05520	0.1305
19	$-3745x^2 + 2951x - 362$	[3, 3, 2, 1]	$2x^2 - x - 1$	-3	0.6276	1.023
20	$3888x^2 + 359x - 1801$	[1, 6, -2, 3]	$1/7x^2 + \frac{9}{14}x + 1/14$	-1	0.3640	0.4452
21	$-3024x^2 + 3961x - 1296$	[1, 1, 0, 1]	$1/2x^2 + 1/4x - 3/4$	-1	0.1469	0.2482
22	$-2160x^2 + 8281x - 4393$	[0, 1, 2, 1]	$-2/3x^2 - x + 1/3$	0	0.3674	0.4957
23	$-6337x^2 - 10009x + 8929$	[1, -3, -3, 1]	$1/2x^2 + 1/4x - 1/4$	1	0.05970	0.1312
24	$-32546x^2 + 33270x - 7995$	[3, 5, 2, 1]	$-2x^2 + x$	3	0.1141	0.2299
25	$-27216x^2 + 73811x - 35935$	[1, -8, 4, 3]	$-2/3x^2 - x + 1/3$	1	0.3215	0.4414
26	$-54873x^2 - 98362x + 84754$	[1, 4, -3, 1]	$1/2x^2 + 1/4x - 1/4$	1	0.06351	0.1304
27	$-343464x^2 + 272141x - 34152$	[3, 5, 2, 1]	$-2x^2 + x$	3	0.1340	0.2194
28	$-320696x^2 + 649757x - 283525$	[1, -8, 4, 3]	$-2/3x^2 - x + 1/3$	1	0.2744	0.3935
29	$-664160x^2 + 921898x - 317677$	[0, 1, 1, 1]	$-1/2x^2 - 5/4x + 1/4$	0	0.4127	0.6760
30	$-466641x^2 - 959069x + 798721$	[1, 4, -3, 1]	$1/4x^2 - 1/4$	-1	0.06650	0.1284
31	$-51574x^2 + 3489793x - 2198644$	[1, 1, -2, 1]	$2x - 1$	-1	0.2395	0.3346
32	$-3567154x^2 + 2147070x + 77361$	[1, 6, 2, 1]	$-x$	-1	0.1591	0.2169
33	$-3618728x^2 + 5636863x - 2121283$	[0, 1, 1, 1]	$-2/3x^2 - x + 1/3$	0	0.2274	0.3534
34	$-7185882x^2 + 7783933x - 2043922$	[0, 1, 2, 1]	$-1/2x^2 - 5/4x + 1/4$	0	0.3241	0.6226
35	$-3879073x^2 - 9281378x + 7472014$	[1, -3, 1, 1]	$1/4x^2 - 1/4$	-1	0.06860	0.1250
36	$-3046464x^2 + 31983552x - 19109233$	[1, 1, -2, 1]	$2x - 1$	-1	0.2216	0.3027
37	$-36553248x^2 + 16062769x + 4569696$	[1, 6, 2, 1]	$-x$	-1	0.1841	0.2225
38	$-39599712x^2 + 48046321x - 14539537$	[0, 1, 1, 1]	$-2/3x^2 - x + 1/3$	0	0.1820	0.3223
39	$-76152960x^2 + 64109090x - 9969841$	[0, 1, 2, 1]	$-1/2x^2 - 5/4x + 1/4$	0	0.3417	0.5897
40	$-31292929x^2 - 89169265x + 69369409$	[1, -3, 1, 1]	$1/4x^2 - 1/4$	-1	0.06974	0.1205

41	$-53166814x^2 + 290493941x - 163248196$	$[1, 1, -2, 1]$	$2x - 1$	-1	0.2014
42	$-370244162x^2 + 110081382x + 79750221$	$[1, 6, 2, 1]$	$-x$	-1	0.2080
43	$-423410976x^2 + 400575323x - 83497975$	$[0, 1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.1557
44	$-793655138x^2 + 510656705x - 3747754$	$[0, 1, 2, 1]$	$-1/2x^2 - 5/4x + 1/4$	0	0.4087
45	$-242036649x^2 - 850569706x + 638864218$	$[1, -3, 1, 1]$	$1/4x^2 - 1/4$	-1	0.0698
46	$-732992816x^2 + 2612371440x - 1364974165$	$[1, 1, -2, 1]$	$2x - 1$	-1	0.1793
47	$-3711860664x^2 + 631981349x + 1099489224$	$[1, 6, 2, 1]$	$-x$	-1	0.2303
48	$-4444853480x^2 + 3244352789x - 265484941$	$[0, 1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.1890
49	$-1754918865x^2 - 8055702677x + 5833275937$	$[1, -3, 1, 1]$	$1/2x^2 + 1/4x - 1/4$	1	0.0690
50	$-9091729894x^2 + 23232092281x - 11098032532$	$[1, 2, -2, 1]$	$2x - 1$	1	0.1563
51	$36869687122x^2 - 2006302638x - 13637594841$	$[1, -8, -3, 1]$	$x$	1	0.2501
52	$45961417016x^2 - 25238394919x - 2539562309$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.2223
53	$-11349416305x^2 - 75745676882x + 52764968374$	$[1, -3, -1, 1]$	$-1/2x^2 - 1/4x + 1/4$	1	0.0672
54	$106093688544x^2 - 203974446240x + 86813217289$	$[1, 2, 2, 1]$	$-2x + 1$	1	0.1320
55	$-363114979056x^2 - 192804712554x + 159140532816$	$[1, 8, -3, 1]$	$x$	1	0.2673
56	$-469208667600x^2 + 184693974985x + 72327315527$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.2553
57	$-56183329729x^2 - 706949486857x + 472345153057$	$[1, 3, 1, 1]$	$1/2x^2 + 1/4x - 1/4$	1	0.0645
58	$-1189165654798x^2 + 1764006452429x - 640895142244$	$[1, 2, -2, 1]$	$2x - 1$	1	0.1093
59	$3547754934626x^2 + 548270512554x - 1783748482197$	$[1, -8, -3, 1]$	$x$	1	0.2811
60	$4736920589424x^2 - 1215735939875x - 1142853339953$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.2863
61	$-36441299961x^2 - 6547239356698x + 4178779061986$	$[1, -3, -1, 1]$	$-1/2x^2 - 1/4x + 1/4$	1	0.0609
62	$12948713513552x^2 - 14977680080592x + 4288102961869$	$[1, 2, 2, 1]$	$-2x + 1$	1	0.0867
63	$-34400750350920x^2 - 8660610551683x + 19423070270328$	$[1, 8, -3, 1]$	$x$	1	0.2911
64	$-47349463864472x^2 + 6317069528909x + 15134967308459$	$[0, -1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.3156
65	$4408948889775x^2 - 60140890150157x + 36466158217921$	$[1, 3, 1, 1]$	$1/2x^2 + 1/4x - 1/4$	1	0.0566
66	$-137917575859414x^2 + 124255308806449x - 23239311548596$	$[1, 2, -2, 1]$	$2x - 1$	1	0.0810
67	$331131672595570x^2 + 114678264310818x - 206876363789121$	$[1, -8, -3, 1]$	$x$	1	0.2970
68	$-469049248454984x^2 + 9577044495631x + 183637052240525$	$[0, 1, -1, 1]$	$2/3x^2 + x - 1/3$	0	0.3411
69	$87030003872447x^2 - 547585080880322x + 313060456652830$	$[1, -3, -1, 1]$	$1/2x^2 + 1/4x - 1/4$	-1	0.0517
70	$1443290177250432x^2 - 999645986441088x + 51970445035489$	$[1, -2, 2, 1]$	$-2x + 1$	-1	0.0977
71	$3164581252316736x^2 + 1391319732214943x - 2164935265875648$	$[1, -8, 3, 1]$	$-x$	-1	0.2983
72	$4607871429567168x^2 + 391673745773855x - 2112964820840159$	$[0, 1, 1, 1]$	$-2/3x^2 - x + 1/3$	0	0.3620
73	$1252319283307007x^2 - 4937842772418529x + 2633907057634945$	$[1, 3, -1, 1]$	$-1/2x^2 - 1/4x + 1/4$	1	0.0463
74	$14884962678065086x^2 - 7701018321074405x - 1123050792286076$	$[1, 2, 2, 1]$	$-2x + 1$	1	0.1143
75	$-30028462338172034x^2 - 16008013470351162x + 22327444017097629$	$[1, 8, -3, 1]$	$x$	1	0.2964
76	$15878744979330231x^2 - 44048911205992906x + 21592198697874346$	$[1, 3, 1, 1]$	$2/3x^2 - 1/3$	1	0.0406
77	$151612802329306736x^2 - 55475818643081136x - 26044036240116347$	$[2, -3, 2, 1]$	$-2x + 1$	2	0.1303
78	$-282895022137041240x^2 - 177656838569423083x + 227419203493960104$	$[1, 14, -5, 2]$	$x$	1	0.2897
79	$187822129830209199x^2 - 388133205704659397x + 170879293471485409$	$[1, 3, 1, 1]$	$2/3x^2 - 1/3$	1	0.0347
80	$1527554930730155590x^2 - 354247532987211817x - 392587096019142188$	$[2, -3, 2, 1]$	$-2x + 1$	2	0.1463

Number:  $\xi = .3172\dots$  Equation:  $2x^3 + 3x^2 + 2x - 1 = 0$ . "All" optimal polynomials.

1	$3x^2 - x$	$[0, -1, 3, 1]$	$-2x^2 - 3x + 1$	0	0.1383	0.1537
2	$-4x^2 - 5x + 2$	$[2, -5, -4, 1]$	$-x^2 - 1/2x - 1/2$	-2	0.2917	0.5250
3	$-x^2 - 6x + 2$	$[0, 1, 1, 1]$	$-x$	0	0.1332	0.1517
4	$9x^2 - 6x + 1$	$[1, 7, 1, 2]$	$-2x$	1	0.1902	0.2770
5	$-8x^2 + 12x - 3$	$[0, -1, -1, 1]$	$x^2 + 3/2x$	0	0.1948	0.2936
6	$17x^2 - 18x + 4$	$[0, 1, 2, 1]$	$x^2 + 2x$	0	0.3222	0.6255
7	$-7x^2 - 23x + 8$	$[1, 3, 0, 1]$	$-2/9x^2 + 1/9x + 5/9$	-1	0.2990	0.3629
8	$-24x^2 - 5x + 4$	$[0, -1, 1, 1]$	$-x^2 - 1/2x - 1/2$	0	0.2472	0.2648
9	$-25x^2 + 30x - 7$	$[1, -1, 0, 1]$	$-2x^2 - 2x$	-1	0.3228	0.5645
10	$-31x^2 - 28x + 12$	$[1, 1, 0, 1]$	$1/2x^2 + 1/4x + 1/4$	-1	0.1308	0.2571
11	$-49x^2 + 25x - 3$	$[1, 1, 0, 1]$	$-2x^2 - x$	-1	0.1694	0.2142
12	$-80x^2 - 3x + 9$	$[0, 1, 1, 1]$	$-2/3x^2 - 5/3x - 1/3$	0	0.4196	0.4255
13	$-12x^2 + 111x - 34$	$[1, -2, 1, 1]$	$-x^2 - 1/2x + 1/2$	1	0.1945	0.2150
14	$-129x^2 + 22x + 6$	$[1, 1, 0, 1]$	$-x$	1	0.08333	0.08593
15	$-399x^2 + 177x - 16$	$[0, 1, 3, 1]$	$-2x^2 - 3x + 1$	0	0.1218	0.1459
16	$-592x^2 - 695x + 280$	$[2, -7, 4, 1]$	$x^2 + 1/2x + 1/2$	-2	0.2805	0.5296
17	$-193x^2 - 872x + 296$	$[0, -1, 1, 1]$	$-x$	0	0.1401	0.1631
18	$-1165x^2 + 978x - 193$	$[1, 7, -1, 2]$	$2x$	-1	0.1586	0.2747
19	$-972x^2 + 1850x - 489$	$[0, -1, 1, 1]$	$-x^2 - 3/2x$	0	0.2305	0.3102
20	$-2137x^2 + 2828x - 682$	$[0, -1, 2, 1]$	$-x^2 - 2x$	0	0.3959	0.6450
21	$-3308x^2 - 483x + 486$	$[1, 2, 2, 1]$	$2/9x^2 - 1/9x + 4/9$	1	0.2338	0.2438
22	$-4479x^2 - 3794x + 1654$	$[0, -1, 2, 1]$	$-x$	0	0.1359	0.2520
23	$-6417x^2 + 4195x - 685$	$[1, 1, 1, 1]$	$-2x^2 - x$	1	0.1446	0.2081
24	$-10896x^2 + 401x + 969$	$[0, 1, 1, 1]$	$-2/3x^2 - 5/3x - 1/3$	0	0.3874	0.3910
25	$-10328x^2 - 16060x + 6133$	$[1, 3, -1, 1]$	$x^2 + 1/2x + 1/2$	-1	0.6390	0.9964
26	$568x^2 - 16461x + 5164$	$[0, -1, 1, 1]$	$-x$	0	0.2129	0.2341
27	$-17313x^2 + 4596x + 284$	$[1, 1, 0, 1]$	$x$	-1	0.07471	0.07999
28	$-52507x^2 + 30249x - 4312$	$[0, -1, 3, 1]$	$-2x^2 - 3x + 1$	0	0.1050	0.1405
29	$-87068x^2 - 96041x + 39222$	$[2, 5, 4, 1]$	$x^2 + 1/2x + 1/2$	-2	0.2666	0.5302
30	$-34561x^2 - 126290x + 43534$	$[0, -1, 1, 1]$	$-x$	0	0.1462	0.1746
31	$-148897x^2 + 156190x - 34561$	$[1, 7, -1, 2]$	$2x$	-1	0.1419	0.2778
32	$-114336x^2 + 282480x - 78095$	$[0, -1, 1, 1]$	$-x^2 - 3/2x$	0	0.2675	0.3318
33	$-263233x^2 + 438670x - 112656$	$[0, -1, 2, 1]$	$-x^2 - 2x$	0	0.4741	0.6761
34	$-453984x^2 - 36241x + 57168$	$[1, 2, 2, 1]$	$2/9x^2 - 1/9x + 4/9$	1	0.2191	0.2240
35	$644735x^2 + 511152x - 226992$	$[0, 1, -2, 1]$	$x$	0	0.1402	0.2457
36	$-831553x^2 + 684909x - 133583$	$[1, 1, 1, 1]$	$2x^2 + x$	-1	0.1209	0.2060
37	$-1476288x^2 + 173757x + 93409$	$[0, -1, 1, 1]$	$-2/3x^2 - 5/3x - 1/3$	0	0.3540	0.3603
38	$-1556636x^2 - 2254606x + 871727$	$[1, -3, -1, 1]$	$x^2 + 1/2x + 1/2$	-1	0.6268	1.019
39	$-2307841x^2 + 858666x - 40174$	$[1, 1, 0, 1]$	$-x^2$	-1	0.06607	0.07524
40	$-6843175x^2 + 5004361x - 898840$	$[1, -1, 3, 1]$	$-2x^2 - 3x + 1$	-1	0.08874	0.1377



41	$-12746376x^2 - 13216363x + 5474348$	[2, 19, -5, 1]	$x^2 + 1/2x + 1/2$	-2	0.2513	0.5282
42	$-5903201x^2 - 18220724x + 6373188$	[0, -1, 1, 1]	$-x$	0	0.1515	0.1859
43	$-18731845x^2 + 24552778x - 5903201$	[1, 7, -1, 2]	$2x$	-1	0.1745	0.2862
44	$-12828644x^2 + 42773502x - 12276389$	[0, -1, 1, 1]	$-x^2 - 3/2x$	0	0.3053	0.3579
45	$-62016468x^2 - 552255x + 6414322$	[1, 2, 2, 1]	$-x$	-1	0.2035	0.2057
46	$92472447x^2 + 68430790x - 31008234$	[1, 1, -2, 1]	$x$	-1	0.1435	0.2383
47	$-106405601x^2 + 109547527x - 24041657$	[1, 3, 1, 1]	$2x^2 + x$	-1	0.1044	0.2080
48	$-198878048x^2 + 41116737x + 6966577$	[0, -1, 1, 1]	$-2/3x^2 - 5/3x - 1/3$	0	0.3198	0.3338
49	$-305283649x^2 + 150664264x - 17075080$	[0, -1, 2, 1]	$-x^2 - 3/2x + 1/2$	0	0.05755	0.07174
50	$881700787x^2 - 808501681x + 167739344$	[1, 1, -8, 1]	$2x^2 + 3x - 1$	1	0.07333	0.1376
51	$-1857941812x^2 - 1810671693x + 761231562$	[2, 25, 7, 1]	$-x^2 - 1/2x - 1/2$	2	0.2472	0.5235
52	$-976241025x^2 - 2619173374x + 928970906$	[0, 1, 1, 1]	$-x$	0	0.1558	0.1971
53	$-2309623673x^2 + 3810423862x - 976241025$	[1, -7, -1, 2]	$2x$	-1	0.2092	0.2998
54	$-6120047535x^2 - 3238594579x + 1642932349$	[1, 2, 1, 1]	$-1/2 - x$	-1	0.4410	0.5963
55	$1333382648x^2 - 6429597236x + 1905211931$	[1, -1, 0, 1]	$2/3x^2 - 1/3x - 2/3$	-1	0.3433	0.3882
56	$-8429671208x^2 + 571829283x + 666691324$	[1, 1, 0, 1]	$x$	-1	0.1872	0.1892
57	$-13216336095x^2 - 9096362532x + 4214835604$	[1, 1, 1, 1]	$-x$	-1	0.1459	0.2299
58	$13406060177x^2 - 17241447617x + 4119973563$	[1, -3, 1, 1]	$2x^2 + x$	-1	0.1288	0.2139
59	$26622396272x^2 - 8145085085x - 94862041$	[0, -1, 1, 1]	$-2/3x^2 - 5/3x - 1/3$	0	0.2852	0.3119
60	$40028456449x^2 - 25386532702x + 4025111522$	[0, -1, 2, 1]	$-x^2 - 3/2x + 1/2$	0	0.04924	0.06955
61	$112035146303x^2 - 128263389121x + 29411644224$	[1, -1, 8, 1]	$-2x^2 - 3x + 1$	1	0.07724	0.1402
62	$269710179648x^2 + 246890236127x - 105443445600$	[2, 25, -7, 1]	$x^2 + 1/2x + 1/2$	2	0.2593	0.5162
63	$157675033345x^2 + 375153625248x - 134855089824$	[0, -1, 1, 1]	$-x$	0	0.1591	0.2078
64	$277282150461x^2 - 585060246338x + 157675033345$	[1, 7, -1, 2]	$2x$	1	0.2455	0.3185
65	$862342396799x^2 + 412137240285x - 217478591903$	[1, 2, 1, 1]	$-1/2 - x$	1	0.4358	0.5631
66	$-119607117116x^2 + 960213871586x - 292530123169$	[1, -1, 0, 1]	$2/3x^2 - 1/3x - 2/3$	1	0.3811	0.4224
67	$1139624547260x^2 - 172923006053x - 59803558558$	[1, 1, 0, 1]	$x$	1	0.1703	0.1747
68	$1882359826943x^2 + 1199428105818x - 569812273630$	[1, 1, 1, 1]	$-x$	1	0.1474	0.2207
69	$-1656120931953x^2 + 2678410995563x - 682931721125$	[1, -3, 1, 1]	$2x^2 + x$	1	0.1547	0.2238
70	$-3538480758896x^2 + 1478982889745x - 113119447495$	[0, -1, 1, 1]	$-2/3x^2 - 5/3x - 1/3$	0	0.2508	0.2948
71	$-5194601690849x^2 + 4157393885308x - 796051168620$	[0, -1, 2, 1]	$-x^2 - 3/2x + 1/2$	0	0.04128	0.06869
72	$-13991702735307x^2 + 20054936852633x - 4953445053928$	[1, -1, 8, 1]	$-2x^2 - 3x + 1$	-1	0.09398	0.1455
73	$-39000084641868x^2 - 33491745056241x + 14546597267006$	[2, 25, -7, 1]	$x^2 + 1/2x + 1/2$	-2	0.2698	0.5064
74	$-25008381906561x^2 - 53546681908874x + 19500042320934$	[0, -1, 1, 1]	$-x$	0	0.1613	0.2179
75	$-32068218098065x^2 + 89016848454990x - 25008381906561$	[1, 7, -1, 2]	$2x$	-1	0.2829	0.3419
76	$-121085066553055x^2 - 51568260418999x + 28538300002313$	[1, 2, 1, 1]	$-1/2 - x$	-1	0.4277	0.5290
77	$7059836191504x^2 - 142563530363864x + 44508424227495$	[1, -1, 0, 1]	$2/3x^2 - 1/3x - 2/3$	-1	0.4182	0.4599
78	$-153153284651120x^2 + 37448588035991x + 3529918095752$	[1, 1, 0, 1]	$x$	-1	0.1531	0.1623
79	$-267178515012671x^2 - 156683202746872x + 76576642325560$	[1, 1, 1, 1]	$-x$	-1	0.1478	0.2107
80	$199341175132193x^2 - 411592497218709x + 110495312265799$	[1, -3, 1, 1]	$2x^2 + x$	-1	0.1818	0.2375

Number:  $\xi = .4294\dots$  Equation:  $2x^3 + 3x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - 2x + 1$	$[1, -2, -1, 1]$	$-1/2x^2 + 1/4x - 1/4$	-1	0.1732	0.2599
2	$-3x^2 - x + 1$	$[1, -2, 1, 1]$	$-x^2 - 1/2x$	-1	0.1556	0.1902
3	$7x^2 - 3x$	$[1, 3, -3, 1]$	$4/3x^2 + 4/3x - 2/3$	-1	0.1286	0.1522
4	$-10x^2 - 12x + 7$	$[2, 5, 1, 1]$	$x + 1/2$	-2	0.3513	0.7148
5	$-14x^2 + 13x - 3$	$[1, -5, -1, 2]$	$-2/3x^2 + 1/3x + 1/3$	-1	0.1690	0.3226
6	$17x^2 + 9x - 7$	$[1, -1, 0, 1]$	$1/2x$	-1	0.05352	0.07759
7	$49x^2 - 42x + 9$	$[1, -3, 1, 1]$	$-2x^2 - x + 1$	-1	0.08969	0.1586
8	$-50x^2 - 74x + 41$	$[1, -5, 1, 1]$	$-1/2x^2 - 1/4x - 1/2$	-1	0.1431	0.2524
9	$-x^2 - 116x + 50$	$[0, 1, 1, 1]$	$-x$	0	0.1510	0.1791
10	$-228x^2 + 219x - 52$	$[1, -5, 0, 1]$	$2x - 1$	1	0.08232	0.1625
11	$-561x^2 - 290x + 228$	$[2, 5, 2, 1]$	$-x$	2	0.2140	0.3066
12	$-404x^2 + 744x - 245$	$[1, 6, -1, 2]$	$-1/2x^2 + 1/4x + 3/4$	1	0.2880	0.4042
13	$157x^2 + 1034x - 473$	$[0, -1, 1, 1]$	$-1/2x^2 - 1/2x$	0	0.1708	0.2104
14	$-1507x^2 - 1395x + 877$	$[1, 3, -1, 1]$	$x^2 + 1/2x$	1	0.1448	0.3179
15	$-1440x^2 + 2451x - 787$	$[1, 3, 1, 1]$	$-2/3x^2 + 1/3x + 1/3$	1	0.1354	0.1961
16	$4611x^2 + 1373x - 1440$	$[1, -2, -1, 1]$	$x$	1	0.2058	0.2441
17	$7424x^2 - 7375x + 1798$	$[1, -3, 1, 1]$	$-x^2 - 1/2x + 1$	1	0.3205	0.6556
18	$2813x^2 - 8748x + 3238$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/4x - 1/4$	0	0.2956	0.3667
19	$-7849x^2 - 9043x + 5331$	$[1, -3, 1, 1]$	$-1/3x^2 + 1/6x + 1/6$	1	0.05584	0.1173
20	$28748x^2 - 6785x - 2388$	$[1, 2, -2, 1]$	$2x^2 + x$	1	0.4505	0.4787
21	$36597x^2 + 2258x - 7719$	$[0, -1, 1, 1]$	$-1/3x^2 - 5/6x + 1/6$	0	0.1845	0.1934
22	$-23287x^2 + 40994x - 13310$	$[1, -4, -2, 1]$	$1/2x^2 + 1/4x - 1/2$	1	0.06954	0.09931
23	$-33264x^2 + 125240x - 47649$	$[0, 1, 3, 1]$	$-x^2 - 3/2x + 1/2$	0	0.2133	0.2592
24	$175136x^2 + 2247x - 33264$	$[1, 4, 0, 1]$	$x$	-1	0.1791	0.1856
25	$260457x^2 + 295968x - 175136$	$[1, 2, 2, 1]$	$-x$	-1	0.2197	0.4667
26	$-383536x^2 + 120746x + 18879$	$[1, -2, 0, 1]$	$1/2x^2 - 1/4x - 3/4$	-1	0.2822	0.3109
27	$-123079x^2 + 416714x - 156257$	$[0, 1, 1, 1]$	$-1/2x^2 - 1/2x$	0	0.1023	0.1256
28	$572971x^2 + 1010897x - 539793$	$[1, 3, 1, 1]$	$-x^2 - 1/2x$	1	0.2402	0.3859
29	$-1325744x^2 + 359991x + 89901$	$[1, 3, -1, 1]$	$2/3x^2 - 1/3x - 1/3$	1	0.1461	0.1575
30	$-2078517x^2 + 1730879x - 359991$	$[0, 1, 2, 1]$	$-x^2 - 3/2x$	0	0.2975	0.5127
31	$2348607x^2 + 2078517x - 1325744$	$[1, 2, -1, 1]$	$-\frac{4}{13}x^2 - \frac{6}{13}$	-1	0.1969	0.4138
32	$-3404261x^2 + 2090870x - 270090$	$[1, 1, 0, 1]$	$x^2 + 1/2x$	-1	0.1651	0.2284
33	$2618697x^2 + 5887913x - 3011479$	$[1, 2, 0, 1]$	$-1/3x^2 + 1/6x + 1/6$	-1	0.08729	0.1274
34	$3919735x^2 - 13879049x + 5237394$	$[1, -2, -2, 1]$	$2x$	-1	0.4166	0.5091
35	$-17798784x^2 - 7581733x + 6538432$	$[1, -4, -1, 1]$	$x + 1/2$	-1	0.6368	0.8383
36	$-1301038x^2 + 19766962x - 8248873$	$[1, -1, 0, 1]$	$-1/3x^2 + 1/6x + 1/6$	-1	0.1388	0.1636
37	$21718519x^2 - 6297316x - 1301038$	$[1, -1, 0, 1]$	$x$	-1	0.07197	0.07828
38	$44738076x^2 - 32361594x + 5646797$	$[0, -1, 2, 1]$	$-x^2 - 3/2x + 1/2$	0	0.1004	0.1545
39	$-99468708x^2 - 61460317x + 44738076$	$[1, -4, -4, 1]$	$x$	-1	0.2130	0.3375
40	$155932747x^2 - 103382098x + 15639353$	$[1, 3, 0, 1]$	$x^2 + 1/2x - 1/2$	-1	0.05280	0.07654

41	$119021451x^2 + 552724691x - 259314845$	$[2, -5, -3, 1]$	$x^2 + 1/2x$	-2	0.2648	0.3
42	$711473733x^2 - 219587254x - 36911296$	$[1, 9, 1, 2]$	$-2/3x^2 + 1/3x - 2/3$	-1	0.2836	0.3
43	$830495184x^2 + 333137437x - 296226141$	$[0, 1, 1, 1]$	$-1/4x^2 - \frac{7}{8}x - 1/8$	0	0.2114	0.2
44	$629363578x^2 - 1428418734x + 497357747$	$[1, -2, 1, 1]$	$-x^2 - 1/2x$	1	0.2496	0.3
45	$2372464101x^2 + 446687620x - 629363578$	$[1, 2, 0, 1]$	$-x$	1	0.2956	0.3
46	$-283241761x^2 - 2970387651x + 1327852931$	$[1, 2, -1, 1]$	$-1/3x^2 + 1/6x + 1/6$	1	0.08192	0.0
47	$5091050019x^2 - 3505431145x + 566483522$	$[1, 2, 1, 1]$	$-2x$	1	0.2067	0.3
48	$4807808258x^2 - 6475818796x + 1894336453$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/4x + 1/4$	0	0.05494	0.0
49	$13687531183x^2 + 5317375934x - 4807808258$	$[1, -4, 2, 1]$	$-x$	-1	0.1054	0.1
50	$32182870624x^2 + 4158933072x - 7721280063$	$[0, 1, 2, 1]$	$-x^2 - 3/2x + 1/2$	0	0.1915	0.2
51	$33937899567x^2 - 42360343921x + 11932502240$	$[1, 6, 0, 1]$	$-x^2 - x$	1	0.2037	0.3
52	$44115372864x^2 + 55995585999x - 32182870624$	$[1, 2, -1, 1]$	$1/2x^2 + 1/4x + 1/2$	1	0.2490	0.4
53	$66120770191x^2 - 38201410849x + 4211222177$	$[1, 1, 0, 1]$	$-x^2 - 1/2x - 1/2$	1	0.3121	0.4
54	$-10177473297x^2 - 98355929920x + 44115372864$	$[1, -1, 0, 1]$	$-\frac{6}{11}x^2 - \frac{5}{11}x - 2/11$	1	0.3298	0.3
55	$110236143055x^2 + 17794175150x - 27971648447$	$[1, 1, 0, 1]$	$1/2x^2 - 1/4x + 1/4$	1	0.09731	0.1
56	$156001966652x^2 - 217119095539x + 64470319458$	$[1, 2, 1, 1]$	$-x^2 - 1/2x + 1$	1	0.2268	0.3
57	$45765823597x^2 - 234913270689x + 92441967905$	$[0, -1, 1, 1]$	$-1/2x^2 - 3/4x - 1/4$	0	0.1764	0.2
58	$-405356221920x^2 - 404445901209x + 248443934557$	$[1, -5, 1, 1]$	$-2/3x^2 + 1/3x + 1/3$	1	0.1857	0.4
59	$652889835766x^2 - 282499735708x + 910320711$	$[1, 2, -1, 1]$	$x^2 + 1/2x$	1	0.1923	0.2
60	$-449301404095x^2 + 1138978003145x - 406266542631$	$[1, -2, -2, 1]$	$2/3x^2 + 2/3x - 1/3$	1	0.04442	0.0
61	$-3625860218575x^2 - 535371127023x + 898602808190$	$[2, -5, -1, 1]$	$-2x$	2	0.3866	0.4
62	$-4075161622670x^2 + 603606876122x + 492336265559$	$[0, 1, 1, 1]$	$-1/2x^2 - 3/4x + 1/4$	0	0.08023	0.0
63	$-6716349310127x^2 - 6605078699564x + 4075161622670$	$[1, -9, 5, 2]$	$-x$	-1	0.09359	0.2
64	$-10568969711671x^2 + 15692820652715x - 4790039109355$	$[1, 5, -2, 1]$	$-x^2 + 1/2x + 1/2$	-1	0.2710	0.4
65	$-17507860242924x^2 - 12606550523006x + 8642659510899$	$[1, 2, 0, 1]$	$-1/3 - 2/3x$	-1	0.2090	0.3
66	$-28076829954595x^2 + 3086270129709x + 3852620401544$	$[0, 1, 1, 1]$	$-x^2 - x$	0	0.3299	0.3
67	$-13655239841380x^2 - 34904449875285x + 17507860242924$	$[1, -1, 1, 1]$	$1/2x^2 + 1/4x + 1/2$	1	0.3567	0.5
68	$14421590113215x^2 - 37990720004994x + 13655239841380$	$[0, -1, 1, 1]$	$-x$	0	0.1815	0.2
69	$-59239930038899x^2 - 44424730268582x + 30003140155367$	$[1, 1, 1, 1]$	$-1/2x^2 + 1/4x - 1/4$	1	0.1036	0.1
70	$74427870423949x^2 - 66461159616691x + 14815199770317$	$[1, 2, -1, 1]$	$x^2 + 1/2x$	1	0.06529	0.1
71	$208095670886797x^2 - 88497588964800x - 372740614733$	$[0, -1, 2, 1]$	$-2/3x^2 - 5/3x + 1/3$	0	0.2579	0.3
72	$-148110259618432x^2 - 282150800696013x + 148483000233165$	$[1, 4, 1, 1]$	$-1/2x^2 - 1/4x - 1/2$	1	0.3317	0.5
73	$59985411268365x^2 - 370648389660813x + 148110259618432$	$[0, 1, 1, 1]$	$-x$	0	0.2458	0.2
74	$430633800929178x^2 + 127192052114522x - 134040541077581$	$[1, 1, -1, 1]$	$-1/2 - x$	-1	0.3084	0.3
75	$490619212197543x^2 - 243456337546291x + 14069718540851$	$[0, 1, 1, 1]$	$-2/3x^2 - 2/3x + 1/3$	0	0.03039	0.0
76	$-1958770311685211x^2 - 1443718199510927x + 981238424395086$	$[2, 1, -4, 1]$	$2x$	2	0.4160	0.7
77	$1934337411708470x^2 - 1997272930202803x + 500982393633433$	$[1, 11, 1, 2]$	$1/2x^2 - 1/4x - 3/4$	1	0.3310	0.6
78	$2424956623906013x^2 - 2240729267749094x + 515052112174284$	$[1, 0, 1, 1]$	$-1/2x^2 - x$	1	0.2545	0.4
79	$-2449389523882754x^2 - 1200261861964636x + 967168705854235$	$[1, 1, -1, 1]$	$-1/6x^2 + 1/12x - \frac{5}{12}$	1	0.1069	0.1
80	$-2473822423859495x^2 - 4641252991678366x + 2449389523882754$	$[0, 1, 2, 1]$	$-x$	0	0.1648	0.2

Number:  $\xi = 0.2564\dots$  Equation:  $2x^3 + 3x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-3x^2 - 3x + 1$	$[1, -3, -3, 1]$	$2x$	-1	0.3033	0.6403
2	$-4x^2 + x$	$[1, -4, 0, 1]$	$-x^2 - 1/2x$	-1	0.1046	0.1111
3	$7x^2 + 6x - 2$	$[1, -2, 0, 1]$	$x$	-1	0.08210	0.1491
4	$-16x^2 + 8x - 1$	$[1, 5, 1, 1]$	$2x^2 + x$	-1	0.1663	0.2086
5	$-32x^2 - 23x + 8$	$[1, -4, 0, 1]$	$-x$	-1	0.1706	0.2694
6	$-25x^2 - 56x + 16$	$[1, -2, 2, 1]$	$-x$	-1	0.1339	0.1716
7	$-37x^2 + 107x - 25$	$[1, 3, -3, 1]$	$2x$	-1	0.2507	0.2944
8	$-144x^2 - 84x + 31$	$[1, 3, 1, 1]$	$-1/2 - x$	-1	0.3435	0.4762
9	$-181x^2 + 23x + 6$	$[0, 1, 1, 1]$	$-x^2 - x$	0	0.1748	0.1778
10	$-132x^2 - 247x + 72$	$[1, -1, 1, 1]$	$2/3x^2 + 1/3x + 2/3$	1	0.2591	0.3551
11	$49x^2 - 270x + 66$	$[0, -1, 1, 1]$	$-x$	0	0.07936	0.08672
12	$-687x^2 - 15x + 49$	$[1, 3, 0, 1]$	$2x$	1	0.2635	0.2649
13	$-736x^2 + 255x - 17$	$[0, -1, 1, 1]$	$-x^2 - 3/2x - 1/2$	0	0.2873	0.3220
14	$-672x^2 - 1072x + 319$	$[1, 3, 1, 1]$	$2/3x^2 + 1/3x + 2/3$	1	0.4852	0.7188
15	$64x^2 - 1327x + 336$	$[0, -1, 1, 1]$	$-x$	0	0.1906	0.2033
16	$-1423x^2 + 240x + 32$	$[1, 1, 0, 1]$	$x$	1	0.05619	0.05782
17	$-4333x^2 + 2047x - 240$	$[0, -1, 3, 1]$	$-2x^2 - 3x$	0	0.4692	0.5754
18	$-4749x^2 - 4333x + 1423$	$[1, 3, 3, 1]$	$4/11x^2 + \frac{6}{11}$	1	0.3209	0.6169
19	$-5756x^2 + 2287x - 208$	$[1, 1, 0, 1]$	$-x^2 - 1/2x$	1	0.09142	0.1060
20	$10921x^2 + 8426x - 2878$	$[1, -2, -1, 1]$	$x$	1	0.08437	0.1404
21	$-22608x^2 + 15528x - 2495$	$[1, 5, 1, 1]$	$2x^2 + x$	1	0.1402	0.2081
22	$-49440x^2 - 31417x + 11304$	$[1, -4, 0, 1]$	$-x$	1	0.1719	0.2503
23	$-42743x^2 - 85464x + 24720$	$[1, -2, 2, 1]$	$-x$	1	0.1317	0.1757
24	$-42699x^2 + 177669x - 42743$	$[1, 3, -3, 1]$	$2x$	1	0.2918	0.3256
25	$-220368x^2 - 110140x + 42721$	$[1, 3, 1, 1]$	$-1/2 - x$	1	0.3396	0.4372
26	$-263067x^2 + 67529x - 22$	$[0, 1, 1, 1]$	$-x^2 - x$	0	0.1559	0.1662
27	$-220412x^2 - 373273x + 110184$	$[1, -1, 1, 1]$	$2/3x^2 + 1/3x + 2/3$	-1	0.2498	0.3587
28	$42655x^2 - 440802x + 110206$	$[0, -1, 1, 1]$	$-x$	0	0.08931	0.09573
29	$-1009569x^2 + 92447x + 42655$	$[1, 3, 0, 1]$	$2x$	-1	0.2402	0.2426
30	$1052224x^2 - 533249x + 67551$	$[0, 1, -1, 1]$	$x^2 + 3/2x + 1/2$	0	0.2480	0.3127
31	$-1102016x^2 - 1603232x + 483457$	$[1, 3, 1, 1]$	$-2/3x^2 - 1/3x - 2/3$	1	0.4582	0.7163
32	$-2061793x^2 + 625696x - 24896$	$[1, -1, 0, 1]$	$-x^2$	1	0.04981	0.05440
33	$6135587x^2 - 4013569x + 625696$	$[1, 1, -3, 1]$	$2x^2 + 3x$	1	0.3972	0.5713
34	$-7436771x^2 - 6135587x + 2061793$	$[1, 12, 3, 1]$	$-4/11x^2 - \frac{6}{11}$	1	0.3322	0.5839
35	$-8197380x^2 + 4639265x - 650592$	$[1, -1, 0, 1]$	$-x^2 - 1/2x$	1	0.07828	0.1038
36	$-16935335x^2 - 11645478x + 4098690$	$[1, 2, 1, 1]$	$-x$	1	0.08566	0.1312
37	$-31488336x^2 + 28706216x - 5289857$	$[1, 5, -1, 1]$	$-2x^2 - x$	1	0.1148	0.2135
38	$-75938720x^2 - 41942647x + 15744168$	$[1, 4, 0, 1]$	$-x$	1	0.1712	0.2308
39	$71965433x^2 + 129652248x - 37969360$	$[1, 2, -2, 1]$	$x$	1	0.1280	0.1784
40	$-43408197x^2 + 291835019x - 71965433$	$[1, 3, 3, 1]$	$-2x$	1	0.3325	0.3600

41	$-335243216x^2 - 139064372x + 57686815$	$[1, -3, 1, 1]$	$-1/2 - x$	1	0.3318
42	$-378651413x^2 + 152770647x - 14278618$	$[0, 1, 1, 1]$	$-x^2 - x$	0	0.1364
43	$363800452x^2 + 560551639x - 167621608$	$[1, 1, -1, 1]$	$-2/3x^2 - 1/3x - 2/3$	-1	0.2378
44	$-14850961x^2 + 713322286x - 181900226$	$[0, 1, 1, 1]$	$-x$	0	0.09874
45	$-1471197455x^2 + 319247569x + 14850961$	$[1, 3, 0, 1]$	$-2x$	1	0.2154
46	$-1486048416x^2 + 1032569855x - 167049265$	$[0, 1, 1, 1]$	$-x^2 - 3/2x - 1/2$	0	0.2088
47	$1790445024x^2 + 2381270928x - 728173247$	$[1, 3, -1, 1]$	$-2/3x^2 - 1/3x - 2/3$	-1	0.4268
48	$-2957245871x^2 + 1351817424x - 152198304$	$[1, 1, 0, 1]$	$x^2$	-1	0.04326
49	$-8567341005x^2 + 7469293055x - 1351817424$	$[1, 1, 3, 1]$	$-2x^2 - 3x$	-1	0.3270
50	$-11524586876x^2 + 8821110479x - 1504015728$	$[0, 1, 1, 1]$	$-\frac{6}{11}x^2 - x + 2/11$	0	0.06532
51	$26107990793x^2 + 15782864586x - 5762293438$	$[2, -25, 6, 1]$	$x$	2	0.08595
52	$-43090316048x^2 + 51321075976x - 10325126207$	$[1, 9, 1, 2]$	$2x^2 + x$	1	0.1288
53	$-112288622889x^2 + 86859287366x - 14887958976$	$[0, -1, 2, 1]$	$-x^2 - 2x$	0	0.3567
54	$-115956550048x^2 - 54310347865x + 21545158024$	$[1, -4, 0, 1]$	$2/11x^2 - 1/11x + \frac{5}{11}$	1	0.1686
55	$-119624477207x^2 - 195479983096x + 57978275024$	$[0, -1, 2, 1]$	$-x$	0	0.1228
56	$-32086534571x^2 + 474829981669x - 119624477207$	$[1, 3, -3, 1]$	$2x$	1	0.3716
57	$-506916516240x^2 - 165920315484x + 75855505889$	$[1, 3, 1, 1]$	$-1/2 - x$	1	0.3203
58	$-539003050811x^2 + 308909666185x - 43768971318$	$[0, 1, 1, 1]$	$-x^2 - x$	0	0.1167
59	$-594454458876x^2 - 836230280249x + 253458258120$	$[1, -1, 1, 1]$	$2/3x^2 + 1/3x + 2/3$	-1	0.2235
60	$-55451408065x^2 - 1145139946434x + 297227229438$	$[0, -1, 1, 1]$	$-x$	0	0.1074
61	$-2068474260608x^2 + 1905948629505x - 352678637503$	$[1, 4, -1, 1]$	$2x - 1$	-1	0.1708
62	$-2884734351744x^2 - 3510841436480x + 1089688538369$	$[1, 4, 1, 1]$	$2/3x^2 + 1/3x + 2/3$	-1	0.3917
63	$-4192399929281x^2 + 2666757312576x - 408130045568$	$[1, 2, 0, 1]$	$-x^2$	-1	0.03671
64	$-11760939696707x^2 + 13417062003713x - 2666757312576$	$[1, -1, 3, 1]$	$-2x^2 - 3x$	-1	0.3386
65	$-15953339625988x^2 + 16083819316289x - 3074887358144$	$[0, 1, 1, 1]$	$-\frac{6}{11}x^2 - x + 2/11$	0	0.05372
66	$-40013828755271x^2 - 20855122080838x + 7976669812994$	$[2, 25, -6, 1]$	$-x$	2	0.08524
67	$-57663583787664x^2 + 89513278965576x - 19158706674433$	$[1, 9, -1, 2]$	$-2x^2 - x$	1	0.1654
68	$-155340996330599x^2 + 158171435850314x - 30340743535872$	$[0, 1, 2, 1]$	$-x^2 - 2x$	0	0.2988
69	$-176008654647072x^2 - 67336669007063x + 28831791893832$	$[1, 4, 0, 1]$	$2/11x^2 - 1/11x + \frac{5}{11}$	-1	0.1640
70	$-196676312963545x^2 - 292844773864440x + 88004327323536$	$[0, -1, 2, 1]$	$-x$	0	0.1164
71	$-757358811214197x^2 + 586204196475031x - 100507852062650$	$[2, 3, 1, 1]$	$-2x^2 + x$	-2	0.09724
72	$-962713906501252x^2 - 1238715764464823x + 380849101187976$	$[1, 4, 0, 1]$	$2/3x^2 + 1/3x + 2/3$	-2	0.2070
73	$-205355095287055x^2 - 1824919960939854x + 481356953250626$	$[0, -1, 1, 1]$	$-x$	0	0.1152
74	$3033774636018543x^2 - 1578779192362417x + 205355095287055$	$[1, -7, -1, 2]$	$-2x$	-1	0.1632
75	$2828419540731488x^2 - 3403699153302271x + 686712048537681$	$[0, 1, 1, 1]$	$-x^2 - 3/2x - 1/2$	0	0.1953
76	$-4612553828380960x^2 - 5134696454921968x + 1619564865652799$	$[1, 3, -1, 1]$	$-2/3x^2 - 1/3x - 2/3$	1	0.3537
77	$5862194176750031x^2 - 4982478345664688x + 892067143824736$	$[1, 1, 0, 1]$	$x^2$	1	0.03030
78	$15802448242600621x^2 - 23485830645218303x + 4982478345664688$	$[1, 1, 3, 1]$	$-2x^2 - 3x$	1	0.4380
79	$-27551539221579469x^2 - 15802448242600621x + 5862194176750031$	$[1, -12, 3, 1]$	$-4/11x^2 - \frac{6}{11}$	1	0.3432
80	$21664642419350652x^2 - 28468308990882991x + 5874545489489424$	$[1, 1, 0, 1]$	$x^2 + 1/2x$	1	0.07106

Number:  $\xi = .2776\dots$  Equation:  $3x^3 - 3x^2 - 3x + 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 3x + 1$	$[1, -3, -2, 1]$	$1 - 3x$	-1	0.1159	0.1803
2	$-5x^2 + 5x - 1$	$[2, -7, -1, 1]$	$-3/2x^2 + 3x - 1/2$	-2	0.06996	0.1427
3	$13x^2 - 1$	$[1, -5, -3, 2]$	$-3x^2 + 1$	-1	0.3636	0.3657
4	$-13x^2 - 18x + 6$	$[1, -3, -2, 1]$	$1/2 - 3/2x$	-1	0.05822	0.09506
5	$-59x^2 + 56x - 11$	$[4, -5, -2, 1]$	$-3x^2 + 6x - 1$	-4	0.2719	0.5262
6	$34x^2 + 77x - 24$	$[1, -14, 1, 4]$	$-1/2 - 3/2x$	-1	0.4244	0.5484
7	$80x^2 + 3x - 7$	$[1, -1, 1, 1]$	$3/7x^2 + 3/7x - 4/7$	-1	0.1921	0.1939
8	$-105x^2 + 130x - 28$	$[1, 1, -1, 1]$	$-3/2x^2 + 3x - 3/2$	-1	0.3971	0.6745
9	$-25x^2 + 133x - 35$	$[0, 1, 1, 1]$	$-x$	0	0.1154	0.1275
10	$169x^2 + 216x - 73$	$[1, 3, 1, 1]$	$3x^2 - 1$	1	0.2340	0.4039
11	$-349x^2 + 313x - 60$	$[1, 3, -1, 1]$	$3/2x^2 - 3x + 1/2$	1	0.1327	0.2434
12	$493x^2 + 36x - 48$	$[1, 1, -1, 1]$	$-3/2x^2 + 1/2$	1	0.1018	0.1033
13	$1094x^2 + 1299x - 445$	$[1, 3, 4, 1]$	$3x - 1$	1	0.1181	0.2157
14	$-2069x^2 + 1745x - 325$	$[2, -5, 1, 1]$	$3/2x^2 - 3x + 1/2$	2	0.06510	0.1130
15	$6085x^2 + 648x - 649$	$[1, 5, -3, 2]$	$-3x^2 + 1$	1	0.4328	0.4427
16	$7057x^2 + 7830x - 2718$	$[1, 3, 2, 1]$	$3/2x - 1/2$	1	0.05986	0.1157
17	$-24587x^2 + 19400x - 3491$	$[4, -5, 2, 1]$	$3x^2 - 6x + 1$	4	0.2565	0.4214
18	$20074x^2 + 32417x - 10548$	$[1, 14, 1, 4]$	$-1/2 - 3/2x$	1	0.4087	0.6087
19	$-37604x^2 - 5187x + 4339$	$[1, 1, -1, 1]$	$-3/7x^2 - 3/7x + 4/7$	1	0.2307	0.2381
20	$-42117x^2 + 46630x - 9700$	$[1, 1, 1, 1]$	$3/2x^2 - 3x + 3/2$	1	0.2776	0.5161
21	$-4513x^2 + 51817x - 14039$	$[0, -1, 1, 1]$	$-x$	0	0.09518	0.1029
22	$90769x^2 + 94608x - 33265$	$[1, -3, 1, 1]$	$3x^2 - 1$	1	0.2439	0.4986
23	$-146425x^2 + 107473x - 18552$	$[1, 3, -1, 1]$	$3/2x^2 - 3x + 1/2$	1	0.1270	0.1974
24	$232681x^2 + 38952x - 28752$	$[1, 1, -1, 1]$	$-3/2x^2 + 1/2$	1	0.1232	0.1286
25	$-262250x^2 + 563452x - 136225$	$[1, 4, 1, 1]$	$-3x^2 + 6x - 2$	1	0.4085	0.5209
26	$-582218x^2 - 572835x + 203929$	$[1, -3, -1, 1]$	$-6x^2 - 3x + 1$	1	0.1289	0.2695
27	$-874037x^2 + 593021x - 97273$	$[1, 2, 1, 1]$	$-3/2x^2 + 3x - 1/2$	1	0.06312	0.09296
28	$-2882941x^2 - 562032x + 378289$	$[1, 3, 1, 1]$	$3x^2 - 1$	1	0.5279	0.5571
29	$2913930x^2 - 2944919x + 593021$	$[1, -4, 0, 1]$	$-3/2x^2 + 3x - 3/2$	1	0.4312	0.8708
30	$30989x^2 - 3506951x + 971310$	$[0, 1, 1, 1]$	$-x$	0	0.1698	0.1828
31	$-3725989x^2 - 3475962x + 1252326$	$[1, 2, 1, 1]$	$3/2x^2 - 1/2$	-1	0.07366	0.1461
32	$6732886x^2 - 9989810x + 2254625$	$[1, 3, -1, 1]$	$3x^2 - 6x + 2$	-1	0.2994	0.4506
33	$10458875x^2 - 6513848x + 1002299$	$[0, -1, 1, 1]$	$3x^2 - 1$	0	0.2522	0.3524
34	$-11146978x^2 - 13934837x + 4728288$	$[1, 3, 0, 1]$	$-1/2 - 3/2x$	-1	0.4104	0.7202
35	$17191761x^2 - 16503658x + 3256924$	$[1, 1, 0, 1]$	$6/7x^2 - \frac{15}{7}x + 6/7$	-1	0.2050	0.4013
36	$-688103x^2 - 20448685x + 5730587$	$[1, 1, 0, 1]$	$-x$	-1	0.08054	0.08696
37	$-47594809x^2 - 42273576x + 15406201$	$[1, -2, 3, 1]$	$3x^2 - 1$	-1	0.3354	0.6352
38	$62722261x^2 - 35576137x + 5042484$	$[1, 3, -1, 1]$	$3/2x^2 - 3x + 1/2$	-1	0.1266	0.1681
39	$-111005173x^2 - 27146124x + 16094304$	$[1, 1, -1, 1]$	$-3/2x^2 + 1/2$	-1	0.1524	0.1647
40	$92289062x^2 - 211724248x + 51670441$	$[1, 4, 1, 1]$	$-3x^2 + 6x - 2$	-1	0.3134	0.3917

41	$-18716111x^2 - 238870372x + 67764745$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.3067	0.333
42	$303448718x^2 + 257586483x - 94910869$	$[1, -3, -1, 1]$	$-3/2x^2 + 1/2$	1	0.1902	0.345
43	$377021669x^2 - 193008137x + 24524317$	$[1, 1, 1, 1]$	$-3/2x^2 + 3x - 1/2$	1	0.06382	0.080
44	$1204637958x^2 - 1029619031x + 193008137$	$[0, -1, 4, 1]$	$3x^2 - 3x$	0	0.3920	0.688
45	$-175018927x^2 - 1397646095x + 401545986$	$[1, -3, 2, 1]$	$-x$	1	0.1465	0.160
46	$1931697481x^2 + 1572665022x - 585559518$	$[1, 1, -2, 1]$	$-3/2x^2 + 1/2$	1	0.1076	0.188
47	$2611278658x^2 - 3649892294x + 812086577$	$[1, 3, 1, 1]$	$-3x^2 + 6x - 2$	1	0.2171	0.339
48	$4542976139x^2 - 2077227272x + 226527059$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.2586	0.313
49	$-5970111370x^2 - 6115641161x + 2158224540$	$[1, -3, 0, 1]$	$-1/2 - 3/2x$	-1	0.4295	0.892
50	$7154254797x^2 - 5727119566x + 1038613636$	$[1, 1, 0, 1]$	$6/7x^2 - \frac{15}{7}x + 6/7$	-1	0.1929	0.320
51	$-1427135231x^2 - 8192868433x + 2384751599$	$[1, 1, 0, 1]$	$-x$	-1	0.07025	0.078
52	$-24560026657x^2 - 19240007328x + 7235252065$	$[1, -2, 3, 1]$	$3x^2 - 1$	-1	0.4853	0.825
53	$27432875761x^2 - 11065717537x + 957616368$	$[1, 3, -1, 1]$	$3/2x^2 - 3x + 1/2$	-1	0.1316	0.153
54	$-53420037649x^2 - 16367158224x + 8662387296$	$[1, 1, -1, 1]$	$-3/2x^2 + 1/2$	-1	0.1918	0.214
55	$31751438738x^2 - 79870035700x + 19728104833$	$[1, 4, 1, 1]$	$-3x^2 + 6x - 2$	-1	0.2424	0.295
56	$-21668598911x^2 - 96237193924x + 28390492129$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.2705	0.307
57	$155941549970x^2 + 117905792835x - 44757650353$	$[1, -3, -1, 1]$	$-3/2x^2 + 1/2$	1	0.2730	0.451
58	$166024389797x^2 - 58201436789x + 3360946609$	$[1, 1, 1, 1]$	$-3/2x^2 + 3x - 1/2$	1	0.06725	0.075
59	$508156009218x^2 - 350711539991x + 58201436789$	$[0, -1, 4, 1]$	$3x^2 - 3x$	0	0.3790	0.564
60	$-157444469227x^2 - 566357446007x + 169385336406$	$[1, -3, 2, 1]$	$-x$	1	0.1307	0.152
61	$989069337469x^2 + 723801915234x - 277208289414$	$[1, 1, -2, 1]$	$-3/2x^2 + 1/2$	1	0.1532	0.247
62	$1024891939006x^2 - 1325981962778x + 289149156593$	$[1, 3, 1, 1]$	$-3x^2 + 6x - 2$	1	0.1557	0.256
63	$2013961276475x^2 - 602180047544x + 11940867179$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.2762	0.300
64	$3038853215481x^2 - 1928162010322x + 301090023772$	$[0, 1, 2, 1]$	$3/2x^2 - 3/2x$	0	0.1891	0.267
65	$-1110691205159x^2 - 3339943239253x + 1012951071827$	$[1, -2, 1, 1]$	$-x$	1	0.06344	0.076
66	$-293220399996x^2 - 11947991728081x + 3339943239253$	$[0, 1, 3, 1]$	$3x^2 - 3x$	0	0.4885	0.526
67	$12241212128077x^2 - 3046722839257x - 97740133332$	$[1, 3, -1, 1]$	$-x$	-1	0.1424	0.151
68	$-25886335861309x^2 - 9194489288820x + 4548374577744$	$[1, 1, -2, 1]$	$-3/2x^2 + 1/2$	-1	0.2447	0.283
69	$10544080122926x^2 - 30282649534672x + 7595097417001$	$[1, 3, 1, 1]$	$-3x^2 + 6x - 2$	-1	0.1893	0.224
70	$-15342255738383x^2 - 39477138823492x + 12143471994745$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.2473	0.308
71	$-4798175615457x^2 - 69759788358164x + 19738569411746$	$[0, 1, 2, 1]$	$3/2x^2 - 3/2x$	0	0.2324	0.252
72	$74557963973621x^2 - 14940393796289x - 1599391871819$	$[1, -2, 1, 1]$	$-x$	-1	0.07369	0.076
73	$218875716305406x^2 - 114580969747031x + 14940393796289$	$[0, 1, 3, 1]$	$3x^2 - 3x$	0	0.3821	0.488
74	$-104294746558375x^2 - 233816110101695x + 72958572101802$	$[1, 3, -1, 1]$	$-x$	1	0.1211	0.156
75	$408014650026058x^2 - 477918443392046x + 101239967822561$	$[1, 2, 1, 1]$	$3/2x^2 - 3x + 1/2$	1	0.1099	0.195
76	$-910037823421835x^2 + 139807586731976x + 31336174456573$	$[1, 3, -2, 1]$	$-3x^2 + 1$	1	0.3064	0.314
77	$-1318052473447893x^2 + 617726030124022x - 69903793365988$	$[0, -1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.1934	0.236
78	$-700326443323871x^2 - 1387956266813881x + 439350824482631$	$[1, 3, 2, 1]$	$x$	1	0.05953	0.080
79	$-782926856523720x^2 - 4781594830565665x + 1387956266813881$	$[0, -1, 3, 1]$	$3x^2 - 3x$	0	0.4251	0.472
80	$-4781594830565665x^2 + 5386624240855826x - 1126980647972641$	$[1, 4, -2, 1]$	$x - 1$	1	0.3897	0.713

Number:  $\xi = .5338\dots$  Equation:  $3x^3 - 3x^2 - 3x + 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-3/4x^2 - 3/4x + 5/4$	-1	0.1812	0.5436
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$3/2x - 1$	-1	0.1444	0.1805
3	$-2x^2 + 3x - 1$	$[1, -1, 2, 1]$	$3/2x^2 - 3/2x - 1/2$	-1	0.2838	0.4415
4	$-4x^2 + 4x - 1$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.07321	0.1510
5	$-11x^2 + 4x + 1$	$[1, 5, 0, 1]$	$3x^2 - 1$	1	0.08034	0.09162
6	$-30x^2 + 31x - 8$	$[1, 7, 0, 1]$	$3x^2 - 3x$	1	0.4763	0.9542
7	$-10x^2 - 34x + 21$	$[1, 6, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	1	0.4616	0.6777
8	$-x^2 + 38x - 20$	$[1, 0, -1, 1]$	$-\frac{9}{7}x^2 + 6/7x + 4/7$	1	0.3821	0.4882
9	$-40x^2 - 3x + 13$	$[1, 1, 0, 1]$	$-3/4x^2 - 3/4x + 1/4$	1	0.1541	0.1713
10	$-49x^2 - 75x + 54$	$[1, -1, 1, 1]$	$3x - 2$	1	0.2160	0.4201
11	$-32x^2 + 107x - 48$	$[1, 2, -1, 1]$	$-3/2x^2 + 3/2x + 1/2$	1	0.3839	0.4955
12	$-121x^2 + 29x + 19$	$[1, 1, 1, 1]$	$-3/2x^2 - 3/2x + 1/2$	1	0.3575	0.3868
13	$-153x^2 + 136x - 29$	$[0, 1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.2133	0.3896
14	$-17x^2 - 182x + 102$	$[1, -1, 0, 1]$	$x$	-1	0.1612	0.2132
15	$136x^2 - 318x + 131$	$[0, -1, 1, 1]$	$3/2x^2 - 3/2x - 1/2$	0	0.4296	0.5811
16	$-325x^2 - 381x + 296$	$[1, 1, 3, 1]$	$9x^2 + 3x - 4$	-1	0.1025	0.2389
17	$119x^2 - 500x + 233$	$[1, 1, 0, 1]$	$3/2x^2 - 3/2x - 1/2$	-1	0.1541	0.1963
18	$-206x^2 - 881x + 529$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.06943	0.09826
19	$2086x^2 + 1968x - 1645$	$[1, -6, 0, 1]$	$-3x^2 + 1$	1	0.05648	0.1419
20	$-1323x^2 - 6667x + 3936$	$[1, 7, 0, 1]$	$-3x^2 + 3x$	1	0.4307	0.5978
21	$-7990x^2 + 2613x + 882$	$[1, -5, -2, 1]$	$x$	1	0.3303	0.3696
22	$3409x^2 + 8635x - 5581$	$[1, -1, 0, 1]$	$-3/4x^2 - 3/4x + 5/4$	1	0.2453	0.3860
23	$11399x^2 + 6022x - 6463$	$[0, -1, 1, 1]$	$3/2x^2 - 1$	0	0.2447	0.3917
24	$14657x^2 - 11893x + 2172$	$[1, -2, 0, 1]$	$-3x^2 + 6x - 2$	1	0.1408	0.2366
25	$26207x^2 + 20679x - 18507$	$[1, 2, 0, 1]$	$3/2x^2 + 3/2x - 1/2$	1	0.3278	0.6954
26	$11550x^2 + 32572x - 20679$	$[0, -1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.1890	0.2890
27	$-32572x^2 + 41701x - 12979$	$[1, -3, 0, 1]$	$1 - x$	1	0.1444	0.2466
28	$-76694x^2 + 50830x - 5279$	$[0, -1, 2, 1]$	$3x^2 - 1$	0	0.07089	0.1024
29	$246817x^2 - 24966x - 57007$	$[1, 5, -5, 1]$	$-3x^2 + 1$	1	0.1065	0.1133
30	$-569430x^2 + 397511x - 49932$	$[1, 7, 0, 1]$	$-3x^2 + 3x$	1	0.4234	0.6329
31	$-418736x^2 - 594396x + 436627$	$[1, -6, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	1	0.3716	0.7566
32	$-171919x^2 - 619362x + 379620$	$[1, 0, 1, 1]$	$\frac{9}{7}x^2 - 6/7x - 4/7$	1	0.2674	0.3884
33	$-816247x^2 + 422477x + 7075$	$[1, 1, -1, 1]$	$3/4x^2 + 3/4x - 5/4$	1	0.2953	0.3744
34	$-988166x^2 - 196885x + 386695$	$[0, 1, 1, 1]$	$3/2x^2 - 1$	0	0.2478	0.2956
35	$1213758x^2 - 1439350x + 422477$	$[1, 0, -2, 1]$	$-3x^2 + 6x - 3$	-1	0.3428	0.6160
36	$-1578821x^2 - 1410643x + 1202942$	$[1, 2, 1, 1]$	$-3x^2 - x + 2$	-1	0.2521	0.5997
37	$225592x^2 - 1636235x + 809172$	$[1, 1, 0, 1]$	$3/2x^2 - 3/2x - 1/2$	-1	0.2365	0.2988
38	$2792579x^2 - 28707x - 780465$	$[1, -1, 0, 1]$	$-3/2x^2 - 3/2x + 1/2$	-1	0.5015	0.5408
39	$3018171x^2 - 1664942x + 28707$	$[0, 1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.2187	0.2853
40	$-1353229x^2 - 3046878x + 2012114$	$[1, 1, 0, 1]$	$-x$	1	0.1190	0.1943



41	$1664942x^2 - 4711820x + 2040821$	$[0, 1, 1, 1]$	$3/2x^2 - 3/2x - 1/2$	0	0.2485	0.3261
42	$311713x^2 - 7758698x + 4052935$	$[0, 1, 2, 1]$	$3x^2 - 1$	0	0.09776	0.1246
43	$9558724x^2 + 15205683x - 10841035$	$[1, 0, -5, 1]$	$-3x^2 + 1$	1	0.05448	0.1037
44	$55175773x^2 - 34258299x + 2564622$	$[2, 13, 5, 1]$	$3x - 2$	2	0.2859	0.3967
45	$-60887564x^2 - 39970090x + 38687779$	$[1, -7, -1, 2]$	$-3/4x^2 - 3/4x + 1/4$	1	0.1268	0.2326
46	$-66599355x^2 - 114198479x + 79940180$	$[0, 1, 2, 1]$	$3x^2 - 3x$	0	0.3329	0.6092
47	$114198479x^2 - 127539304x + 35540610$	$[1, 3, 1, 1]$	$1 - x$	-1	0.1936	0.3638
48	$-127486919x^2 - 154168569x + 118627959$	$[1, 1, 0, 1]$	$-3/2x^2 - 3/2x + 1/2$	-1	0.2060	0.4687
49	$-13288440x^2 - 281707873x + 154168569$	$[0, 1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.2567	0.3341
50	$-294996313x^2 + 140880129x + 8858960$	$[1, -2, 0, 1]$	$x$	1	0.1503	0.1847
51	$-281707873x^2 + 422588002x - 145309609$	$[0, -1, 1, 1]$	$3/2x^2 - 3/2x - 1/2$	0	0.2693	0.4208
52	$-576704186x^2 + 563468131x - 136450649$	$[0, -1, 2, 1]$	$3x^2 - 1$	0	0.07277	0.1463
53	$-1602468484x^2 + 550232076x + 162922759$	$[1, 0, 5, 1]$	$3x^2 - 1$	-1	0.08153	0.09198
54	$-4318637175x^2 + 4366864919x - 1100464152$	$[1, 7, 0, 1]$	$3x^2 - 3x$	-1	0.4520	0.9228
55	$-1554240740x^2 - 4868869251x + 3042014209$	$[1, 6, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	-1	0.4527	0.6755
56	$-48227744x^2 + 5419101327x - 2879091450$	$[1, 0, -1, 1]$	$-\frac{9}{7}x^2 + 6/7x + 4/7$	-1	0.3716	0.4765
57	$-5872877915x^2 - 502004332x + 1941550057$	$[1, 1, 0, 1]$	$-3/4x^2 - 3/4x + 1/4$	-1	0.1589	0.1774
58	$-7378890911x^2 - 10789974910x + 7862655716$	$[1, -1, 1, 1]$	$3x - 2$	-1	0.2137	0.4272
59	$-4415092663x^2 + 15205067573x - 6858647052$	$[1, 2, -1, 1]$	$-3/2x^2 + 3/2x + 1/2$	-1	0.3707	0.4774
60	$-17666861489x^2 + 3913088331x + 2945558721$	$[1, 1, 1, 1]$	$-3/2x^2 - 3/2x + 1/2$	-1	0.3644	0.3924
61	$-22081954152x^2 + 19118155904x - 3913088331$	$[0, 1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.2125	0.3785
62	$-2963798248x^2 - 25995042483x + 14721302768$	$[1, -1, 0, 1]$	$x$	1	0.1572	0.2097
63	$19118155904x^2 - 45113198387x + 18634391099$	$[0, -1, 1, 1]$	$3/2x^2 - 3/2x - 1/2$	0	0.4135	0.5583
64	$-48640210385x^2 - 54953883214x + 43196378694$	$[1, 1, 3, 1]$	$9x^2 + 3x - 4$	1	0.1019	0.2448
65	$16154357656x^2 - 71108240870x + 33355693867$	$[1, 1, 0, 1]$	$3/2x^2 - 3/2x - 1/2$	1	0.1491	0.1896
66	$-32485852729x^2 - 126062124084x + 76552072561$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.06798	0.09756
67	$310959418214x^2 + 284610100897x - 240543881065$	$[1, -6, 0, 1]$	$-3x^2 + 1$	-1	0.06002	0.1462
68	$-211246611447x^2 - 953543109458x + 569220201794$	$[1, 7, 0, 1]$	$-3x^2 + 3x$	-1	0.4213	0.5922
69	$-1164789720905x^2 + 357973590347x + 140831074298$	$[1, -5, -2, 1]$	$x$	-1	0.3356	0.3722
70	$522206029661x^2 + 1238153210355x - 809764082859$	$[1, -1, 0, 1]$	$-3/4x^2 - 3/4x + 5/4$	-1	0.2411	0.3872
71	$1686995750566x^2 + 880179620008x - 950595157157$	$[0, -1, 1, 1]$	$3/2x^2 - 1$	0	0.2563	0.4075
72	$2118332830363x^2 - 1669490290152x + 287558053198$	$[1, -2, 0, 1]$	$-3x^2 + 6x - 2$	-1	0.1407	0.2306
73	$3896197530793x^2 + 2998512450371x - 2710954397173$	$[1, 2, 0, 1]$	$3/2x^2 + 3/2x - 1/2$	-1	0.3465	0.7195
74	$1777864700430x^2 + 4668002740523x - 2998512450371$	$[0, -1, 1, 1]$	$3/2x^2 - 3/2x$	0	0.1857	0.2892
75	$-4668002740523x^2 + 5888650490464x - 1813269316751$	$[1, -3, 0, 1]$	$1 - x$	-1	0.1377	0.2373
76	$-11113870181476x^2 + 7109298240405x - 628026183131$	$[0, -1, 2, 1]$	$3x^2 - 1$	0	0.07119	0.1005
77	$36125534735558x^2 - 3104726299334x - 8637170065273$	$[1, 5, -5, 1]$	$-3x^2 + 1$	-1	0.1091	0.1162
78	$-82465094010855x^2 + 55653738173299x - 6209452598668$	$[1, 7, 0, 1]$	$-3x^2 + 3x$	-1	0.4246	0.6204
79	$-62936890573114x^2 - 85569820310189x + 63613899405843$	$[1, -6, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	-1	0.3683	0.7711
80	$-26811355837556x^2 - 88674546609523x + 54976729340570$	$[1, 0, 1, 1]$	$\frac{9}{7}x^2 - 6/7x - 4/7$	-1	0.2621	0.3868

Number:  $\xi = .3704\dots$  Equation:  $3x^3 - 3x^2 - 2x + 1 = 0$ . “All” optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$1 - 3x$	-1	0.06107	0.1374
2	$x^2 + 5x - 2$	$[1, -3, -2, 1]$	$-3x^2 + 3x$	-1	0.2670	0.3204
3	$-3x^2 - 7x + 3$	$[0, 1, -1, 1]$	$-2x^2 + x + 1/3$	0	0.2247	0.3072
4	$-7x^2 + 8x - 2$	$[1, 6, 4, 1]$	$x - 1$	1	0.1848	0.3378
5	$-10x^2 + x + 1$	$[0, 1, 1, 1]$	$3x^2 - 1$	0	0.1699	0.1733
6	$-17x^2 + 9x - 1$	$[0, 1, 2, 1]$	$3x^2 - 3x$	0	0.3435	0.4409
7	$17x^2 + 18x - 9$	$[1, -3, -1, 1]$	$-x^2 - x + 2/3$	1	0.06124	0.1312
8	$7x^2 + 46x - 18$	$[1, 1, 2, 1]$	$3x^2 - 3x$	1	0.2798	0.3291
9	$24x^2 + 64x - 27$	$[0, 1, 1, 1]$	$2x^2 - x - 1/3$	0	0.2325	0.3066
10	$-64x^2 + 75x - 19$	$[1, -4, 3, 1]$	$1 - x$	-1	0.2010	0.3603
11	$-88x^2 + 11x + 8$	$[0, -1, 1, 1]$	$3x^2 - 1$	0	0.1628	0.1667
12	$-152x^2 + 86x - 11$	$[0, -1, 2, 1]$	$3x^2 - 3x$	0	0.3399	0.4505
13	$143x^2 + 163x - 80$	$[1, 3, -1, 1]$	$-x^2 - x + 2/3$	1	0.06216	0.1250
14	$46x^2 + 423x - 163$	$[1, 1, 2, 1]$	$3x^2 - 3x$	1	0.2929	0.3399
15	$189x^2 + 586x - 243$	$[0, 1, 1, 1]$	$2x^2 - x - 1/3$	0	0.2413	0.3079
16	$-586x^2 + 703x - 180$	$[1, -4, 3, 1]$	$1 - x$	-1	0.2187	0.3849
17	$-775x^2 + 117x + 63$	$[0, -1, 1, 1]$	$3x^2 - 1$	0	0.1564	0.1610
18	$-1361x^2 + 820x - 117$	$[0, -1, 2, 1]$	$3x^2 - 3x$	0	0.3374	0.4623
19	$1199x^2 + 1478x - 712$	$[1, 3, -1, 1]$	$-x^2 - x + 2/3$	1	0.06327	0.1196
20	$262x^2 + 3893x - 1478$	$[1, 1, 2, 1]$	$3x^2 - 3x$	1	0.3071	0.3528
21	$1461x^2 + 5371x - 2190$	$[0, 1, 1, 1]$	$2x^2 - x - 1/3$	0	0.2510	0.3113
22	$-5371x^2 + 6587x - 1703$	$[1, -4, 3, 1]$	$1 - x$	-1	0.2377	0.4116
23	$-6832x^2 + 1216x + 487$	$[0, -1, 1, 1]$	$3x^2 - 1$	0	0.1504	0.1560
24	$-12203x^2 + 7803x - 1216$	$[0, -1, 2, 1]$	$3x^2 - 3x$	0	0.3358	0.4764
25	$10016x^2 + 13419x - 6345$	$[1, 3, -1, 1]$	$-x^2 - x + 2/3$	1	0.06457	0.1150
26	$997x^2 + 35857x - 13419$	$[1, 1, 2, 1]$	$3x^2 - 3x$	1	0.3226	0.3680
27	$11013x^2 + 49276x - 19764$	$[0, 1, 1, 1]$	$2x^2 - x - 1/3$	0	0.2615	0.3167
28	$-60289x^2 + 12422x + 3671$	$[1, -5, 2, 1]$	$-x$	-1	0.1450	0.1517
29	$-109565x^2 + 74120x - 12422$	$[0, 1, 2, 1]$	$3x^2 - 3x$	0	0.3351	0.4927
30	$83312x^2 + 121987x - 56618$	$[1, 2, -1, 1]$	$-x^2 - x + 2/3$	1	0.06606	0.1111
31	$-3230x^2 + 330516x - 121987$	$[1, 1, 2, 1]$	$3x^2 - 3x$	1	0.3393	0.3855
32	$80082x^2 + 452503x - 178605$	$[0, 1, 1, 1]$	$2x^2 - x - 1/3$	0	0.2730	0.3241
33	$-532585x^2 + 125217x + 26694$	$[1, -5, 2, 1]$	$-x$	-1	0.1401	0.1482
34	$-985088x^2 + 702937x - 125217$	$[0, 1, 2, 1]$	$3x^2 - 3x$	0	0.3353	0.5115
35	$689519x^2 + 1110305x - 505891$	$[1, 2, -1, 1]$	$-x^2 - x + 2/3$	1	0.06775	0.1079
36	$-138635x^2 + 3048764x - 1110305$	$[1, 1, 2, 1]$	$3x^2 - 3x$	1	0.3574	0.4055
37	$550884x^2 + 4159069x - 1616196$	$[0, 1, 1, 1]$	$2x^2 - x - 1/3$	0	0.2855	0.3337
38	$-4709953x^2 + 1248940x + 183628$	$[1, -5, 2, 1]$	$-x$	-1	0.1356	0.1454
39	$-8869022x^2 + 6656949x - 1248940$	$[0, 1, 2, 1]$	$3x^2 - 3x$	0	0.3365	0.5327
40	$5673086x^2 + 10117962x - 4526325$	$[1, 2, -1, 1]$	$-x^2 - x + 2/3$	1	0.06965	0.1055

41	$-2232803x^2 + 28141813x - 10117962$	[1, 1, 2, 1]	$3x^2 - 3x$	1	0.3770	0.4281
42	$3440283x^2 + 38259775x - 14644287$	[0, 1, 1, 1]	$2x^2 - x - 1/3$	0	0.2991	0.3454
43	$-41700058x^2 + 12350765x + 1146761$	[1, -5, 2, 1]	$-x$	-1	0.1316	0.1433
44	$-79959833x^2 + 62961305x - 12350765$	[0, 1, 2, 1]	$3x^2 - 3x$	0	0.3386	0.5566
45	$46347821x^2 + 92310598x - 40553297$	[1, 2, -1, 1]	$-x^2 - x + 2/3$	1	0.07177	0.1037
46	$-28964249x^2 + 259933266x - 92310598$	[1, 1, 2, 1]	$3x^2 - 3x$	1	0.3981	0.4533
47	$-340663187x^2 - 138658419x + 98105122$	[1, -5, 1, 1]	$-x^2 - x - 1/3$	1	0.5751	0.7180
48	$17383572x^2 + 352243864x - 132863895$	[1, 1, 0, 1]	$-6x^2 + 9x - 2$	1	0.3139	0.3593
49	$-369627436x^2 + 121274847x + 5794524$	[1, 1, 0, 1]	$-x$	1	0.1280	0.1418
50	$-721871300x^2 + 594793558x - 121274847$	[0, 1, 2, 1]	$3x^2 - 3x$	0	0.3416	0.5832
51	$-375430331x^2 - 843146147x + 363832912$	[1, -2, 0, 1]	$x^2 + x - 2/3$	-1	0.07412	0.1026
52	$-340638074x^2 + 2402360699x - 843146147$	[1, 1, -2, 1]	$-3x^2 + 3x$	-1	0.4210	0.4813
53	$-2939661029x^2 - 1218576478x + 854743566$	[1, 5, 1, 1]	$-x^2 - x - 1/3$	-1	0.5301	0.6660
54	$-34792257x^2 - 3245506846x + 1206979059$	[1, -1, 0, 1]	$6x^2 - 9x + 2$	-1	0.3299	0.3756
55	$-3280299103x^2 + 1183784221x + 11597419$	[1, 1, 0, 1]	$x$	-1	0.1248	0.1411
56	$-6525805949x^2 + 5613075288x - 1183784221$	[0, -1, 2, 1]	$3x^2 - 3x$	0	0.3456	0.6127
57	$-3009245543x^2 - 7709590170x + 3268701684$	[1, 2, 0, 1]	$x^2 + x - 2/3$	-1	0.07672	0.1022
58	$-3787613966x^2 + 22216039849x - 7709590170$	[1, 1, -2, 1]	$-3x^2 + 3x$	-1	0.4457	0.5123
59	$-25359647630x^2 - 10718835713x + 7450134029$	[1, 5, 1, 1]	$-x^2 - x - 1/3$	-1	0.4884	0.6178
60	$-28368893173x^2 - 18428425883x + 10718835713$	[1, 0, 1, 1]	$3x^2 - 3x$	-1	0.4276	0.6691
61	$-29147261596x^2 + 11497204136x - 259456141$	[1, 1, 0, 1]	$-x^2 + 2x - 1/3$	-1	0.1220	0.1410
62	$-59072891615x^2 + 52920038291x - 11497204136$	[0, -1, 3, 1]	$3x^2 - 3x$	0	0.3506	0.6453
63	$-23802910784x^2 - 70570095751x + 29406717737$	[1, 2, -2, 1]	$x^2 + x - 2/3$	-1	0.07958	0.1025
64	$-40614331643x^2 + 205557433929x - 70570095751$	[1, 1, -2, 1]	$-3x^2 + 3x$	-1	0.4724	0.5465
65	$-218701777178x^2 - 94373006535x + 64966288798$	[1, 5, 1, 1]	$-x^2 - x - 1/3$	-1	0.4497	0.5731
66	$-242504687962x^2 - 164943102286x + 94373006535$	[1, 0, 1, 1]	$3x^2 - 3x$	-1	0.3868	0.6244
67	$-259316108821x^2 + 111184427394x - 5603806953$	[1, 1, 0, 1]	$-x^2 + 2x - 1/3$	-1	0.1196	0.1416
68	$-535443638501x^2 + 498496384468x - 111184427394$	[0, -1, 3, 1]	$3x^2 - 3x$	0	0.3566	0.6811
69	$-185078935460x^2 - 646628065895x + 264919915774$	[1, 2, -2, 1]	$x^2 + x - 2/3$	-1	0.08271	0.1034
70	$-1885440192203x^2 - 831707001355x + 566787085581$	[1, 2, 3, 1]	$3x^2 - 1$	-1	0.4138	0.5317
71	$-2070519127663x^2 - 1478335067250x + 831707001355$	[0, 1, 1, 1]	$3x^2 - 3x$	0	0.3491	0.5834
72	$2310042068605x^2 - 1071229942297x + 79840980314$	[1, 5, -2, 1]	$x^2 - 2x + 1/3$	1	0.1175	0.1429
73	$4859607078152x^2 - 4692024894141x + 1071229942297$	[0, 1, 3, 1]	$3x^2 - 3x$	0	0.3637	0.7203
74	$-1406394310319x^2 - 5930837020449x + 2389883048919$	[1, 2, 2, 1]	$-x^2 - x + 2/3$	-1	0.08614	0.1050
75	$16248439155866x^2 + 7337231330768x - 4947348281849$	[1, 2, -3, 1]	$-3x^2 + 1$	-1	0.3804	0.4932
76	$17654833466185x^2 + 13268068351217x - 7337231330768$	[0, -1, 1, 1]	$3x^2 - 3x$	0	0.3142	0.5459
77	$-20605299681985x^2 + 10287697546568x - 983488738600$	[1, -5, -2, 1]	$x^2 - 2x + 1/3$	-1	0.1157	0.1448
78	$-44161065579770x^2 + 44131160990921x - 10287697546568$	[0, 1, 3, 1]	$3x^2 - 3x$	0	0.3718	0.7632
79	$10347506724266x^2 + 54448763126338x - 21588788420585$	[1, 2, 2, 1]	$-x^2 - x + 2/3$	1	0.08988	0.1073
80	$-139969951014323x^2 - 64796269850604x + 43207481430019$	[1, 2, -3, 1]	$-3x^2 + 1$	1	0.3495	0.4577

Number:  $\xi = .7181\dots$  Equation:  $3x^3 - 3x^2 + 2x - 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.2025	0.4049
2	$-2x^2 + 1$	$[1, 0, -2, 1]$	$3x - 2$	-1	0.1248	0.1561
3	$-3x^2 - 2x + 3$	$[1, 2, 3, 1]$	$-3x^2 + 1$	-1	0.1536	0.3755
4	$5x^2 - 5x + 1$	$[1, -5, 2, 1]$	$-x$	-1	0.3064	0.6250
5	$2x^2 - 7x + 4$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.2358	0.3320
6	$-8x^2 - 4x + 7$	$[1, 2, 0, 1]$	$-3x^2 + 3x$	1	0.1870	0.3770
7	$-10x^2 + 3x + 3$	$[0, -1, 1, 1]$	$-2x^2 + x - 1/3$	0	0.1889	0.2230
8	$-18x^2 - x + 10$	$[0, -1, 2, 1]$	$-3x^2 + 1$	0	0.3347	0.4391
9	$19x^2 - 22x + 6$	$[1, 3, -1, 1]$	$-x$	-1	0.3591	0.6536
10	$x^2 - 23x + 16$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1541	0.2290
11	$-26x^2 - 44x + 45$	$[1, 3, 2, 1]$	$-6x^2 + 3x$	1	0.5542	1.269
12	$46x^2 - x - 23$	$[1, 1, -1, 1]$	$2x^2 - x + 1/3$	1	0.3744	0.4681
13	$47x^2 - 24x - 7$	$[1, 0, 1, 1]$	$-2x^2 + x - 1/3$	1	0.2527	0.3241
14	$-25x^2 - 67x + 61$	$[1, -1, 1, 1]$	$3x - 2$	1	0.07916	0.1558
15	$190x^2 + 85x - 159$	$[1, 2, -2, 1]$	$6x^2 - 3x$	1	0.5980	1.137
16	$-208x^2 + 141x + 6$	$[1, -5, -2, 1]$	$1/3x^2 - 2/3x - 1/9$	1	0.2995	0.4375
17	$-215x^2 - 152x + 220$	$[1, -1, 0, 1]$	$2 - 3x$	1	0.05166	0.1257
18	$204x^2 + 671x - 587$	$[1, 2, -2, 1]$	$3x^2 - 1$	1	0.2628	0.4882
19	$419x^2 + 823x - 807$	$[0, -1, 1, 1]$	$-3x^2 + x$	0	0.3277	0.7276
20	$-875x^2 + 723x - 68$	$[1, 5, 2, 1]$	$9/5x^2 - 6/5x + 4/5$	1	0.3209	0.5419
21	$-1294x^2 - 100x + 739$	$[0, -1, 1, 1]$	$2 - 3x$	0	0.1082	0.1441
22	$1917x^2 + 1594x - 2133$	$[1, 2, -1, 1]$	$3x^2 - 1$	1	0.1608	0.3804
23	$3211x^2 + 1694x - 2872$	$[0, -1, 1, 1]$	$-3x^2 + x$	0	0.3019	0.6275
24	$-3511x^2 + 3411x - 639$	$[1, 5, 2, 1]$	$9/5x^2 - 6/5x + 4/5$	1	0.3128	0.6183
25	$-1594x^2 + 5005x - 2772$	$[1, 0, 1, 1]$	$-3x^2 + 3x - 1$	1	0.2496	0.3514
26	$5128x^2 + 3288x - 5005$	$[1, -1, 1, 1]$	$-3x^2 + 3x$	1	0.1591	0.3761
27	$6722x^2 - 1717x - 2233$	$[0, -1, 1, 1]$	$-2x^2 + x - 1/3$	0	0.1767	0.2078
28	$11850x^2 + 1571x - 7238$	$[0, -1, 2, 1]$	$-3x^2 + 1$	0	0.3004	0.4177
29	$-13421x^2 + 15138x - 3950$	$[1, 3, -1, 1]$	$-x$	-1	0.3520	0.6526
30	$-1571x^2 + 16709x - 11188$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1684	0.2453
31	$30422x^2 + 1425x - 16709$	$[1, 2, 0, 1]$	$-3x^2 + 3x$	1	0.3390	0.4420
32	$31993x^2 - 15284x - 5521$	$[0, -1, 1, 1]$	$-2x^2 + x - 1/3$	0	0.2424	0.3049
33	$45852x^2 + 34697x - 48556$	$[1, 1, 2, 1]$	$3 - 3x$	1	0.4722	1.134
34	$13859x^2 + 49981x - 43035$	$[0, -1, 1, 1]$	$-x^2 + 1/3$	0	0.09120	0.1658
35	$122126x^2 + 70819x - 113821$	$[1, 0, 2, 1]$	$-6x^2 + 3x$	1	0.5115	1.128
36	$-142964x^2 + 92983x + 6946$	$[1, 4, -2, 1]$	$1/3x^2 - 2/3x - 1/9$	1	0.2930	0.4176
37	$135985x^2 + 120800x - 156856$	$[1, 1, 0, 1]$	$3x - 2$	1	0.05437	0.1275
38	$108168x^2 + 498385x - 413641$	$[1, 2, 2, 1]$	$-3x^2 + 1$	1	0.3002	0.5211
39	$-606553x^2 + 485753x - 36056$	$[1, -5, 2, 1]$	$-x$	1	0.3192	0.5251
40	$850706x^2 + 133432x - 534441$	$[1, 1, -1, 1]$	$3x - 2$	1	0.09681	0.1374

41	$1203027x^2 + 1251002x - 1518579$	$[1, 1, 2, 1]$	$-3x^2 + 1$	1	0.1687	0.3890
42	$2053733x^2 + 1384434x - 2053020$	$[0, 1, 1, 1]$	$-3x^2 + x$	0	0.2557	0.6274
43	$-2454029x^2 + 2320597x - 401009$	$[1, -5, 2, 1]$	$9/5x^2 - 6/5x + 4/5$	-1	0.3163	0.6076
44	$3256760x^2 + 2635436x - 3571599$	$[1, 1, 0, 1]$	$-3x^2 + 6x - 3$	-1	0.1598	0.3797
45	$4507762x^2 - 936163x - 1652011$	$[1, -1, 0, 1]$	$-2x^2 + x - 1/3$	-1	0.1646	0.1938
46	$7764522x^2 + 1699273x - 5223610$	$[0, 1, 1, 1]$	$-3x^2 + 1$	0	0.2670	0.4006
47	$-9463795x^2 + 10399958x - 2588174$	$[1, 2, -3, 1]$	$-x$	1	0.3439	0.6500
48	$-1699273x^2 + 12099231x - 7811784$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1828	0.2626
49	$20036806x^2 + 2462383x - 12099231$	$[1, 2, 0, 1]$	$-3x^2 + 3x$	-1	0.3044	0.4200
50	$21736079x^2 - 9636848x - 4287447$	$[0, -1, 1, 1]$	$-2x^2 + x - 1/3$	0	0.2316	0.2861
51	$28910544x^2 + 27423955x - 34598420$	$[1, 1, 2, 1]$	$3 - 3x$	-1	0.4964	1.155
52	$7174465x^2 + 37060803x - 30310973$	$[0, -1, 1, 1]$	$-x^2 + 1/3$	0	0.1038	0.1771
53	$77857894x^2 + 57310293x - 81296071$	$[1, 0, 2, 1]$	$-6x^2 + 3x$	-1	0.4693	1.133
54	$-98107384x^2 + 61046581x + 6749830$	$[1, 4, -2, 1]$	$1/3x^2 - 2/3x - 1/9$	-1	0.2856	0.3976
55	$85032359x^2 + 94371096x - 111607044$	$[1, 1, 0, 1]$	$3x - 2$	-1	0.05699	0.1308
56	$51707844x^2 + 368145647x - 291010499$	$[1, 2, 2, 1]$	$-3x^2 + 1$	-1	0.3391	0.5576
57	$-419853491x^2 + 325482395x - 17235948$	$[1, -5, 2, 1]$	$-x$	-1	0.3167	0.5075
58	$556593694x^2 + 137034348x - 385381595$	$[1, 1, -1, 1]$	$3x - 2$	-1	0.08580	0.1321
59	$745041741x^2 + 967696738x - 1079009637$	$[1, 1, 2, 1]$	$-3x^2 + 1$	-1	0.1763	0.4022
60	$1301635435x^2 + 1104731086x - 1464391232$	$[0, 1, 1, 1]$	$-3x^2 + x$	0	0.2692	0.6350
61	$-1712738479x^2 + 1575704131x - 248347247$	$[1, -5, 2, 1]$	$9/5x^2 - 6/5x + 4/5$	1	0.3190	0.5957
62	$2046677176x^2 + 2072427824x - 2543400869$	$[1, 1, 0, 1]$	$-3x^2 + 6x - 3$	1	0.1678	0.3878
63	$3014373914x^2 - 470973045x - 1216043985$	$[1, -1, 0, 1]$	$-2x^2 + x - 1/3$	1	0.1523	0.1808
64	$5061051090x^2 + 1601454779x - 3759444854$	$[0, 1, 1, 1]$	$-3x^2 + 1$	0	0.2348	0.3879
65	$-6662505869x^2 + 7133478914x - 1687017030$	$[1, 2, -3, 1]$	$-x$	-1	0.3350	0.6459
66	$-1601454779x^2 + 8734933693x - 5446461884$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1972	0.2805
67	$13136476094x^2 + 2731936513x - 8734933693$	$[1, 2, 0, 1]$	$-3x^2 + 3x$	1	0.2709	0.4024
68	$14737930873x^2 - 6002997180x - 3288471809$	$[0, -1, 1, 1]$	$-2x^2 + x - 1/3$	0	0.2204	0.2680
69	$18008991540x^2 + 21332285633x - 24603346300$	$[1, 1, 2, 1]$	$3 - 3x$	1	0.5196	1.189
70	$3271060667x^2 + 27335282813x - 21314874491$	$[0, -1, 1, 1]$	$-x^2 + 1/3$	0	0.1169	0.1897
71	$49154459174x^2 + 45396507779x - 57941626293$	$[1, 0, 2, 1]$	$-6x^2 + 3x$	1	0.4935	1.152
72	$-67215684140x^2 + 39880401327x + 6020408322$	$[1, 4, -2, 1]$	$1/3x^2 - 2/3x - 1/9$	1	0.2776	0.3775
73	$52425519841x^2 + 72731790592x - 79256500784$	$[1, 1, 0, 1]$	$3x - 2$	1	0.05950	0.1356
74	$19574130576x^2 + 270620891617x - 204413811217$	$[1, 2, 2, 1]$	$-3x^2 + 1$	1	0.3793	0.5977
75	$-290195022193x^2 + 217463231601x - 6524710192$	$[1, -5, 2, 1]$	$-x$	1	0.3132	0.4892
76	$362194672610x^2 + 125889450608x - 277145601809$	$[1, 1, -1, 1]$	$3x - 2$	1	0.07522	0.1283
77	$453768453603x^2 + 739863024434x - 765229725027$	$[1, 1, 2, 1]$	$-3x^2 + 1$	1	0.1836	0.4198
78	$-815963126213x^2 - 865752475042x + 1042375326836$	$[0, -1, -1, 1]$	$3x^2 - x$	0	0.2823	0.6501
79	$-1193631478037x^2 + 1067742027429x - 151256151201$	$[1, -5, 2, 1]$	$-9/5x^2 + 6/5x - 4/5$	1	0.3208	0.5826
80	$1269731579816x^2 + 1605615499476x - 1807605051863$	$[1, -1, 0, 1]$	$-3x^2 + 6x - 3$	1	0.1754	0.4004

Number:  $\xi = .7959\dots$  Equation:  $3x^3 - 3x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1624	0.3248
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	-1	0.1666	0.2498
3	$x^2 + 3x - 3$	[1, 3, -3, 1]	$3x^2 - 3x + 1$	-1	0.1922	0.4057
4	$5x^2 - 4x$	[1, 3, 1, 1]	$-3/2x^2 + 3/2x - 1$	-1	0.4037	0.6621
5	$6x^2 - x - 3$	[0, 1, 1, 1]	$-3/4x^2 - 3/4x + 3/4$	0	0.1873	0.2393
6	$-x^2 - 8x + 7$	[1, -2, 0, 1]	$x - 1$	1	0.06793	0.1210
7	$23x^2 - 7x - 9$	[1, 3, 0, 1]	$3x^2 - 3x + 1$	1	0.2879	0.3587
8	$24x^2 + x - 16$	[0, -1, 1, 1]	$-3/2x^2$	0	0.2979	0.4308
9	$25x^2 - 40x + 16$	[1, 4, 1, 1]	$x$	1	0.6586	1.021
10	$x^2 - 41x + 32$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1774	0.2856
11	$47x^2 - 6x - 25$	[1, 1, 0, 1]	$3/2x^2 - 3/2x + 1/2$	1	0.05977	0.07765
12	$140x^2 + 23x - 107$	[0, -1, 3, 1]	$-3x^2 + 1$	0	0.4776	0.7694
13	$169x^2 - 181x + 37$	[1, 3, 3, 1]	$-3/11x^2 + \frac{9}{11}x + 1/11$	1	0.4545	0.8697
14	$187x^2 + 17x - 132$	[1, 1, 0, 1]	$1 - 3/2x$	1	0.09407	0.1417
15	$-385x^2 + 368x - 49$	[1, -2, -1, 1]	$3/2x^2 - 3/2x + 1/2$	1	0.1022	0.1973
16	$719x^2 + 272x - 672$	[1, 5, 1, 1]	$3x - 2$	1	0.1383	0.2789
17	$-96x^2 - 1631x + 1359$	[1, -3, -2, 1]	$3/4x^2 + 3/4x - 3/4$	1	0.2292	0.3891
18	$-1727x^2 + 1455x - 64$	[1, -2, -1, 1]	$x$	1	0.2045	0.3500
19	$-1631x^2 + 3086x - 1423$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1674	0.2498
20	$1007x^2 + 5165x - 4749$	[1, -3, 0, 1]	$-3x^2 + 3x - 1$	1	0.2405	0.4529
21	$-7627x^2 + 5548x + 416$	[1, 3, -1, 1]	$3/2x^2 - 3/2x + 1$	1	0.3966	0.6077
22	$-8634x^2 + 383x + 5165$	[0, -1, 1, 1]	$-3/4x^2 - 3/4x + 3/4$	0	0.1637	0.2226
23	$383x^2 + 13416x - 10921$	[1, 2, 0, 1]	$x - 1$	1	0.08066	0.1342
24	$-33529x^2 + 6697x + 15911$	[1, 3, 0, 1]	$3x^2 - 3x + 1$	1	0.2583	0.3268
25	$-33912x^2 - 6719x + 26832$	[0, -1, 1, 1]	$-3/2x^2$	0	0.2511	0.4182
26	$-40631x^2 + 60744x - 22608$	[1, 4, 1, 1]	$x$	1	0.6413	1.017
27	$-67441x^2 - 22x + 42743$	[1, 1, 0, 1]	$3/4x^2 - 9/4x + 5/4$	1	0.05196	0.07283
28	$-195604x^2 - 67529x + 177669$	[1, -1, 3, 1]	$-3x^2 + 1$	1	0.3936	0.7653
29	$263045x^2 + 67551x - 220412$	[0, -1, -1, 1]	$\frac{12}{11}x^2 - 3/11x - 4/11$	0	0.07859	0.1390
30	$-593663x^2 + 526112x - 42655$	[2, 25, -6, 1]	$3/2x^2 - 3/2x + 1/2$	2	0.1026	0.1838
31	$-984673x^2 - 600800x + 1102016$	[1, -9, -1, 2]	$2 - 3x$	1	0.1371	0.2874
32	$-2563009x^2 - 675488x + 2161377$	[0, 1, 2, 1]	$-9/4x^2 + 3/4x + 1/4$	0	0.4291	0.7641
33	$2637697x^2 - 2036897x - 49792$	[1, -4, 0, 1]	$3/11x^2 - \frac{6}{11}x - 2/11$	-1	0.2014	0.3216
34	$2712385x^2 - 4749282x + 2061793$	[0, 1, 2, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1674	0.2536
35	$-760609x^2 - 8737955x + 7436771$	[1, 3, 3, 1]	$-3x^2 + 3x - 1$	1	0.2906	0.5033
36	$11535461x^2 - 7546788x - 1301184$	[1, 3, -1, 1]	$3/2x^2 - 3/2x + 1$	1	0.3831	0.5519
37	$12296070x^2 + 1191167x - 8737955$	[0, -1, 1, 1]	$-3/4x^2 - 3/4x + 3/4$	0	0.1402	0.2123
38	$13487237x^2 - 21034025x + 8197380$	[1, 1, 1, 1]	$x$	1	0.3265	0.5104
39	$1191167x^2 - 22225192x + 16935335$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.09346	0.1480
40	$47232504x^2 + 18251905x - 44450384$	[1, 4, -1, 1]	$3x^2 - 3x$	1	0.2057	0.4185

41	$65484409x^2 - 91682888x + 31488336$	[1, 4, 1, 1]	$x$	1	0.6168
42	$95656175x^2 + 14278618x - 71965433$	[1, 2, 0, 1]	$3/4x^2 - 9/4x + 5/4$	1	0.04413
43	$268716620x^2 + 152770647x - 291835019$	[1, -1, 3, 1]	$-3x^2 + 1$	1	0.3699
44	$364372795x^2 + 167049265x - 363800452$	[0, 1, 1, 1]	$-\frac{12}{11}x^2 + 3/11x + 4/11$	0	0.06367
45	$910073473x^2 - 743024208x + 14850961$	[2, 25, -6, 1]	$-3/2x^2 + 3/2x - 1/2$	-2	0.1018
46	$1318999151x^2 + 1199619120x - 1790445024$	[1, 9, -1, 2]	$2 - 3x$	-1	0.1528
47	$3548071775x^2 + 1656214032x - 3566039087$	[0, 1, 2, 1]	$-9/4x^2 + 3/4x + 1/4$	0	0.3507
48	$4004666687x^2 - 2805047567x - 304396608$	[1, 4, 0, 1]	$-3/11x^2 + \frac{6}{11}x + 2/11$	1	0.1960
49	$4461261599x^2 - 7266309166x + 2957245871$	[0, -1, 2, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1655
50	$-50785585x^2 + 14583403917x - 11575372461$	[1, 3, -3, 1]	$3x^2 - 3x + 1$	1	0.3417
51	$17286880314x^2 + 4562832769x - 14583403917$	[1, 3, 2, 1]	$-3/2x^2 + 3/2x$	1	0.1170
52	$21849713083x^2 - 31870284231x + 11524586876$	[1, -2, 1, 1]	$x$	1	0.3165
53	$4562832769x^2 - 36433117000x + 26107990793$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1060
54	$-69198306841x^2 - 3667927159x + 46758243207$	[1, -4, 0, 1]	$-3x^2 + 3x - 1$	1	0.1961
55	$-64635474072x^2 - 40101044159x + 72866234000$	[0, 1, 1, 1]	$-3/2x^2$	0	0.2067
56	$-133833780913x^2 - 43768971318x + 119624477207$	[0, 1, 2, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.03647
57	$-361400298580x^2 - 308909666185x + 474829981669$	[1, 7, 6, 1]	$-3x^2 + 1$	1	0.4135
58	$-495234079493x^2 - 352678637503x + 594454458876$	[0, 1, 1, 1]	$-\frac{12}{11}x^2 + 3/11x + 4/11$	0	0.07155
59	$-1386915767807x^2 + 1034237130304x + 55451408065$	[2, 31, -8, 1]	$-3/2x^2 + 3/2x - 1/2$	-2	0.09984
60	$-1715795623105x^2 - 2258627267008x + 2884734351744$	[1, 9, -1, 2]	$2 - 3x$	-1	0.1675
61	$-4818507014017x^2 - 3483017403712x + 5824920111553$	[0, 1, 2, 1]	$-9/4x^2 + 3/4x + 1/4$	0	0.3951
62	$-6042897150721x^2 + 3784269883713x + 816260091136$	[1, 4, 0, 1]	$-3/11x^2 + \frac{6}{11}x + 2/11$	1	0.1885
63	$-7267287287425x^2 + 11051557171138x - 4192399929281$	[0, -1, 2, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1616
64	$-23930009438982x^2 - 11182036861439x + 24060489129283$	[2, 3, 1, 1]	$3x^2 - 6x + 3$	2	0.09568
65	$-35112046300421x^2 + 47990498568265x - 15953339625988$	[1, 4, 0, 1]	$x$	2	0.3030
66	$-11182036861439x^2 + 59172535429704x - 40013828755271$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1181
67	$97677412542935x^2 + 20667658316473x - 78331242104137$	[1, -7, -1, 2]	$-3x^2 + 3x - 1$	1	0.1650
68	$86495375681496x^2 + 79840193746177x - 118345070859408$	[0, 1, 1, 1]	$-3/2x^2$	0	0.2302
69	$-184172788224431x^2 - 100507852062650x + 196676312963545$	[0, -1, -2, 1]	$3/2x^2 - 1/2x - 1/2$	0	0.03326
70	$472678170927116x^2 + 586204196475031x - 766037593537707$	[1, 7, 6, 1]	$3x^2 - 1$	-1	0.4543
71	$958374515339497x^2 - 757358811214197x - 4339391161755$	[1, -15, -4, 1]	$-3/11x^2 + \frac{9}{11}x + 1/11$	-1	0.4049
72	$-656850959151547x^2 - 686712048537681x + 962713906501252$	[1, -1, 0, 1]	$3/2x - 1$	-1	0.07923
73	$-2100921818903425x^2 + 1414209770365744x + 205355095287055$	[1, -2, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	-1	0.09673
74	$2141707492193807x^2 + 4090411201839952x - 4612553828380960$	[1, -5, 1, 1]	$3x - 2$	-1	0.1808
75	$-9060538234765247x^2 + 4970127032925295x + 1784134287649472$	[1, 4, 0, 1]	$3/2x^2 - 3/2x + 1/2$	-1	0.1789
76	$11736739666239455x^2 - 16706866699164750x + 5862194176750031$	[1, -2, -2, 1]	$3/2x^2 - 3/2x + 1/2$	-1	0.1559
77	$38383860431254795x^2 - 15790096929861228x - 11749090978978848$	[1, -4, 0, 1]	$2 - 3x$	-1	0.3192
78	$32496963629025978x^2 + 23510533270697089x - 39300630200558317$	[1, -3, 2, 1]	$-3/4x^2 - 3/4x + 3/4$	-1	0.1078
79	$56007496899723067x^2 - 71797593829584295x + 21664642419350652$	[1, 2, -1, 1]	$x$	-1	0.2863
80	$23510533270697089x^2 - 95308127100281384x + 60965272619908969$	[0, -1, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	0	0.1294

Number:  $\xi = .4425\dots$  Equation:  $3x^3 - 3x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$-3x^2 + 3x - 1$	0	0.2036	0.2545
2	$-3x^2 - x + 1$	$[1, -1, -3, 1]$	$3x^2$	-1	0.2690	0.3288
3	$4x^2 - 4x + 1$	$[1, 3, 1, 1]$	$-x$	-1	0.2116	0.4365
4	$4x^2 + 5x - 3$	$[1, -2, -1, 1]$	$1 - 3x$	-1	0.1083	0.2166
5	$5x^2 - 9x + 3$	$[1, 2, 0, 1]$	$3/2x^2 + 1/2$	-1	0.2785	0.3954
6	$x^2 - 14x + 6$	$[0, -1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1752	0.2082
7	$16x^2 + 11x - 8$	$[1, 3, 0, 1]$	$3x^2 - 3x + 1$	-1	0.05946	0.1024
8	$47x^2 + 47x - 30$	$[0, -1, 3, 1]$	$-6x^2 + 3x - 1$	0	0.4348	1.047
9	$56x^2 - 18x - 3$	$[1, 3, 3, 1]$	$-3/10x^2 + 3/5x + 1/10$	-1	0.1893	0.2094
10	$63x^2 + 58x - 38$	$[1, 1, 0, 1]$	$-3x^2$	-1	0.1408	0.3113
11	$119x^2 + 40x - 41$	$[0, 1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.3528	0.4345
12	$-121x^2 + 101x - 21$	$[1, -3, 0, 1]$	$3/2x^2 - 3/2x + 1$	1	0.2298	0.3968
13	$182x^2 + 98x - 79$	$[1, 1, 0, 1]$	$3x - 2$	1	0.3496	0.5168
14	$61x^2 + 199x - 100$	$[0, 1, 1, 1]$	$-9/5x^2 + 3/5x - 2/5$	0	0.2035	0.2740
15	$179x^2 - 260x + 80$	$[1, -2, -1, 1]$	$3/2x^2 + 1/2$	-1	0.2757	0.4325
16	$422x^2 + 37x - 99$	$[1, 1, 1, 1]$	$1 - 3x$	-1	0.2379	0.2528
17	$-118x^2 + 459x - 180$	$[1, -1, 0, 1]$	$-3/2x^2 - 1/2$	-1	0.2234	0.2725
18	$-304x^2 - 496x + 279$	$[0, -1, -1, 1]$	$3x^2 - 3x + 1$	0	0.06779	0.1147
19	$1445x^2 - 149x - 217$	$[1, 3, 0, 1]$	$3x^2 - 3x + 1$	-1	0.1496	0.1545
20	$1098x^2 + 2443x - 1296$	$[1, -4, 0, 1]$	$-3x^2$	-1	0.2511	0.3725
21	$2543x^2 + 2294x - 1513$	$[0, 1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.1911	0.4143
22	$-3541x^2 + 2394x - 366$	$[1, -3, 1, 1]$	$3/2x^2 - 3/2x + 1$	1	0.2334	0.3426
23	$3641x^2 + 4737x - 2809$	$[1, 1, 0, 1]$	$3x - 2$	1	0.2809	0.5457
24	$6084x^2 - 100x - 1147$	$[1, -1, 0, 1]$	$-\frac{12}{5}x^2 + 9/5x - 6/5$	1	0.4048	0.4193
25	$100x^2 + 7131x - 3175$	$[1, 1, 0, 1]$	$1 - x$	1	0.3100	0.3715
26	$-5984x^2 + 7231x - 2028$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2530	0.4462
27	$9725x^2 + 4637x - 3956$	$[1, 1, 0, 1]$	$3x - 1$	1	0.1499	0.2087
28	$-5884x^2 + 14362x - 5203$	$[1, 1, 0, 1]$	$-3/2x^2 - 1/2$	1	0.2594	0.3370
29	$3841x^2 + 18999x - 9159$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1180	0.1503
30	$-35159x^2 - 6680x + 9840$	$[1, -3, 0, 1]$	$3x^2 - 3x + 1$	-1	0.1050	0.1171
31	$9480x^2 + 90358x - 41839$	$[1, 4, 0, 1]$	$3x^2$	-1	0.4075	0.4994
32	$44639x^2 + 97038x - 51679$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.3301	0.4936
33	$99838x^2 - 51319x + 3160$	$[1, -3, -1, 1]$	$-3/2x^2 + 3/2x - 1$	-1	0.2201	0.2785
34	$144477x^2 + 45719x - 48519$	$[0, 1, 1, 1]$	$-3x^2$	0	0.2708	0.3285
35	$-190196x^2 + 192996x - 48159$	$[1, 0, -2, 1]$	$-x$	1	0.2138	0.4348
36	$198596x^2 + 233115x - 142037$	$[1, 2, 1, 1]$	$3x - 1$	1	0.1022	0.2142
37	$-235915x^2 + 431711x - 144837$	$[1, 2, 0, 1]$	$-3/2x^2 - 1/2$	1	0.2781	0.3924
38	$-37319x^2 + 664826x - 286874$	$[0, 1, 1, 1]$	$-3x^2 + 3x - 1$	0	0.1714	0.2039
39	$-785984x^2 - 506349x + 377952$	$[1, -3, 0, 1]$	$3x^2 - 3x + 1$	-1	0.06227	0.1025
40	$-2320633x^2 - 2183873x + 1420730$	$[0, -1, 3, 1]$	$-6x^2 + 3x - 1$	0	0.4600	1.040



41	$-2705824x^2 + 907142x + 128397$	[1, 3, 3, 1]	$-3/10x^2 + 3/5x + 1/10$	-1	0.1918	0.2138
42	$-3106617x^2 - 2690222x + 1798682$	[1, 1, 0, 1]	$-3x^2$	-1	0.1485	0.3097
43	$5796839x^2 - 4905299x + 1035539$	[1, -3, 0, 1]	$-x$	-1	0.2288	0.4000
44	$-8919058x^2 - 4473302x + 3725761$	[1, 2, 0, 1]	$3x - 2$	-1	0.3643	0.5196
45	$-3122219x^2 - 9378601x + 4761300$	[0, 1, 1, 1]	$-9/5x^2 + 3/5x - 2/5$	0	0.1962	0.2685
46	$8487061x^2 - 12500820x + 3869760$	[1, 2, 0, 1]	$-3/2x^2 - 1/2$	1	0.2766	0.4306
47	$-20528338x^2 - 1351083x + 4617301$	[1, 1, -1, 1]	$3x - 1$	1	0.2443	0.2577
48	$5364842x^2 - 21879421x + 8631060$	[1, 1, 0, 1]	$-3/2x^2 - 1/2$	1	0.2203	0.2678
49	$15163496x^2 + 23230504x - 13248361$	[0, -1, -1, 1]	$3x^2 - 3x + 1$	0	0.06454	0.1130
50	$70072075x^2 - 8447571x - 9982143$	[1, -3, 0, 1]	$-3x^2 + 3x - 1$	1	0.1526	0.1579
51	$-55289142x^2 - 114801437x + 61624504$	[1, -4, 0, 1]	$3x^2$	1	0.2406	0.3658
52	$-125361217x^2 - 106353866x + 71606647$	[0, -1, 1, 1]	$-3x^2 + 2x - 1$	0	0.2016	0.4124
53	$170090579x^2 - 116913646x + 18429714$	[1, 3, 1, 1]	$3/2x^2 - 3/2x + 1$	1	0.2337	0.3469
54	$-180650359x^2 - 221155303x + 133231151$	[1, 1, 0, 1]	$3x - 2$	1	0.2658	0.5395
55	$-295451796x^2 + 10559780x + 53176933$	[1, -1, 0, 1]	$-\frac{12}{5}x^2 + 9/5x - 6/5$	1	0.4143	0.4282
56	$-10559780x^2 - 338068949x + 151660865$	[1, 1, 0, 1]	$1 - x$	1	0.3024	0.3635
57	$284892016x^2 - 348628729x + 98483932$	[0, -1, 1, 1]	$-3/2x^2 - 1/2$	0	0.2552	0.4460
58	$-476102155x^2 - 210595523x + 186408084$	[1, 1, 0, 1]	$3x - 1$	1	0.1559	0.2103
59	$274332236x^2 - 686697678x + 250144797$	[1, 1, 0, 1]	$-3/2x^2 - 1/2$	1	0.2574	0.3326
60	$-201769919x^2 - 897293201x + 436552881$	[0, 1, 1, 1]	$-3x^2 + 3x - 1$	0	0.1142	0.1470
61	$1713198481x^2 + 283157840x - 460740320$	[1, -3, 0, 1]	$3x^2 - 3x + 1$	-1	0.1082	0.1190
62	$-532747440x^2 - 4275870482x + 1996356321$	[1, 4, 0, 1]	$3x^2$	-1	0.3960	0.4885
63	$-2245945921x^2 - 4559028322x + 2457096641$	[0, -1, 1, 1]	$-3x^2 + 2x - 1$	0	0.3162	0.4848
64	$-4808617922x^2 + 2529103761x - 177582480$	[1, -3, -1, 1]	$-3/2x^2 + 3/2x - 1$	-1	0.2216	0.2832
65	$-7054563843x^2 - 2029924561x + 2279514161$	[0, 1, 1, 1]	$-3x^2$	0	0.2802	0.3326
66	$9084488404x^2 - 9334078004x + 2351521281$	[1, 0, -2, 1]	$-x$	1	0.2171	0.4364
67	$-9833257204x^2 - 10864823365x + 6732967123$	[1, 2, 1, 1]	$3x - 1$	1	0.09631	0.2122
68	$11114412965x^2 - 20698080569x + 6982556723$	[1, 2, 0, 1]	$-3/2x^2 - 1/2$	1	0.2774	0.3890
69	$1281155761x^2 - 31562903934x + 13715523846$	[0, 1, 1, 1]	$-3x^2 + 3x - 1$	0	0.1677	0.1996
70	$38584260016x^2 + 23260392091x - 17847380088$	[1, -3, 0, 1]	$3x^2 - 3x + 1$	-1	0.06513	0.1027
71	$114471624287x^2 + 101344080207x - 67257664110$	[0, -1, 3, 1]	$-6x^2 + 3x - 1$	0	0.4857	1.034
72	$130710660296x^2 - 45605616098x - 5413012003$	[1, 3, 3, 1]	$-3/10x^2 + 3/5x + 1/10$	-1	0.1943	0.2183
73	$153055884303x^2 + 124604472298x - 85105044198$	[1, 1, 0, 1]	$-3x^2$	-1	0.1565	0.3085
74	$-277660356601x^2 + 238160928501x - 51018628101$	[1, -3, 0, 1]	$-x$	-1	0.2279	0.4032
75	$436822428902x^2 + 203603328498x - 175623100399$	[1, 2, 0, 1]	$3x - 2$	-1	0.3793	0.5230
76	$159162072301x^2 + 441764256999x - 226641728500$	[0, 1, 1, 1]	$-9/5x^2 + 3/5x - 2/5$	0	0.1889	0.2631
77	$-402264828899x^2 + 600926329300x - 187142300400$	[1, 2, 0, 1]	$-3/2x^2 - 1/2$	1	0.2774	0.4286
78	$998249330102x^2 + 44441256197x - 215122528499$	[1, 1, -1, 1]	$3x - 1$	1	0.2507	0.2628
79	$-243102756598x^2 + 1042690586299x - 413784028900$	[1, 1, 0, 1]	$-3/2x^2 - 1/2$	1	0.2171	0.2631
80	$755146573504x^2 + 1087131842496x - 628906557399$	[0, 1, 1, 1]	$-3x^2 + 3x - 1$	0	0.06134	0.1115

Number:  $\xi = .3003\dots$  Equation:  $3x^3 - 2x^2 - 3x + 1 = 0$ . “All” optimal polynomials.

1	$-x^2 - 3x + 1$	$[1, -3, -1, 1]$	$1 - 3x$	-1	0.08044	0.09832
2	$-10x^2 + 3x$	$[3, -10, 0, 1]$	$3x - 1$	-3	0.08859	0.09656
3	$-30x^2 + 19x - 3$	$[1, -9, 10, 3]$	$3x^2 - 2x$	-1	0.2632	0.3713
4	$-x^2 - 33x + 10$	$[1, 9, -3, 1]$	$x$	-1	0.09562	0.1045
5	$-73x^2 - 58x + 24$	$[1, 2, 3, 1]$	$3x^2 + x - 1$	-1	0.2008	0.3493
6	$-100x^2 + 60x - 9$	$[1, -3, 1, 1]$	$-3x^2 + 5x - 1$	-1	0.08703	0.1191
7	$-247x^2 - 89x + 49$	$[1, 2, 1, 1]$	$3x^2 + x - 1$	-1	0.2279	0.2664
8	$327x^2 - 298x + 60$	$[1, -4, 0, 1]$	$-3x^2 + 5x - 2$	-1	0.3071	0.5726
9	$80x^2 - 387x + 109$	$[0, 1, 1, 1]$	$-x$	0	0.1292	0.1450
10	$-514x^2 - 505x + 198$	$[1, 3, 1, 1]$	$3x^2 + x - 1$	1	0.09780	0.2067
11	$1081x^2 - 954x + 189$	$[1, 3, -1, 1]$	$3x^2 - 5x + 1$	1	0.09990	0.1808
12	$-2029x^2 - 443x + 316$	$[1, 2, -1, 1]$	$-3x^2 - x + 1$	1	0.1511	0.1619
13	$3810x^2 - 4321x + 954$	$[1, 4, 0, 1]$	$-3x^2 + 5x - 2$	1	0.5269	0.9622
14	$3358x^2 + 4696x - 1713$	$[1, -3, -1, 1]$	$3x^2 + 2x - 1$	1	0.08020	0.1319
15	$12511x^2 - 13917x + 3051$	$[3, 4, 1, 1]$	$-3x^2 + 5x - 1$	3	0.1627	0.3019
16	$17446x^2 + 239x - 1645$	$[1, 7, 2, 3]$	$3x^2 + x - 1$	1	0.1097	0.1107
17	$18163x^2 + 47164x - 15801$	$[1, -3, 3, 1]$	$3x - 1$	1	0.07947	0.1002
18	$-7086x^2 - 154931x + 47164$	$[1, 2, -3, 1]$	$-3x^2 + 2x$	1	0.2830	0.3099
19	$159655x^2 - 40078x - 2362$	$[1, 9, 3, 1]$	$-x$	1	0.09026	0.09597
20	$471879x^2 - 275165x + 40078$	$[0, 1, 3, 1]$	$3x^2 - 2x$	0	0.2602	0.3506
21	$39421x^2 + 511957x - 157293$	$[1, -3, 0, 1]$	$x$	-1	0.09199	0.1012
22	$1221676x^2 + 945463x - 394085$	$[1, 2, 3, 1]$	$3x^2 + x - 1$	-1	0.2248	0.3828
23	$1575292x^2 - 865573x + 117872$	$[1, -3, 1, 1]$	$-3x^2 + 5x - 1$	-1	0.08632	0.1129
24	$4058065x^2 + 1537310x - 827591$	$[1, 2, 1, 1]$	$3x^2 + x - 1$	-1	0.2459	0.2914
25	$-5079492x^2 + 4407755x - 865573$	$[1, -4, 0, 1]$	$-3x^2 + 5x - 2$	-1	0.2962	0.5279
26	$-1021427x^2 + 5945065x - 1693164$	$[0, 1, 1, 1]$	$-x$	0	0.1219	0.1353
27	$8669995x^2 + 8154112x - 3230474$	$[1, 3, 1, 1]$	$3x^2 + x - 1$	1	0.1112	0.2251
28	$-16813768x^2 + 14088838x - 2714591$	$[1, 3, -1, 1]$	$3x^2 - 5x + 1$	1	0.09661	0.1670
29	$33132331x^2 + 8164451x - 5439521$	$[1, 2, -1, 1]$	$-3x^2 - x + 1$	1	0.1610	0.1751
30	$-58585077x^2 + 64509464x - 14088838$	$[1, 4, 0, 1]$	$-3x^2 + 5x - 2$	1	0.4694	0.8789
31	$-25452746x^2 + 72673915x - 19528359$	$[0, 1, 1, 1]$	$-x$	0	0.1789	0.2137
32	$-57625684x^2 - 74913979x + 27692810$	$[1, -3, -1, 1]$	$-3x^2 - x + 1$	-1	0.08158	0.1410
33	$-192568999x^2 + 207617230x - 44981105$	$[1, 3, 1, 1]$	$-3x^2 + 5x - 1$	-1	0.1447	0.2760
34	$282367621x^2 + 14884643x - 29932874$	$[1, -2, -1, 1]$	$-3x^2 - x + 1$	-1	0.1149	0.1165
35	$-327021550x^2 - 742419598x + 252434747$	$[1, -3, -3, 1]$	$1 - 3x$	-1	0.07871	0.1031
36	$223760409x^2 + 2405106738x - 742419598$	$[1, -2, -3, 1]$	$-3x^2 + 2x$	-1	0.2726	0.3010
37	$2554280344x^2 - 518659189x - 74586803$	$[1, -9, -3, 1]$	$x$	-1	0.09234	0.09623
38	$7439080623x^2 - 3961084305x + 518659189$	$[0, -1, 3, 1]$	$3x^2 - 2x$	0	0.2585	0.3331
39	$-998302777x^2 - 7957739812x + 2479693541$	$[1, -3, 0, 1]$	$-x$	-1	0.08884	0.09886
40	$20427349921x^2 + 15432391637x - 6476349048$	$[1, 2, -3, 1]$	$-3x^2 - x + 1$	-1	0.2512	0.4199

41	$24871522213x^2 - 12401912104x + 1481390764$	$[1, 3, 1, 1]$	$-3x^2 + 5x - 1$	-1	0.08601
42	$-66724524832x^2 - 26420610982x + 13951000873$	$[1, -2, -1, 1]$	$-3x^2 - x + 1$	-1	0.2657
43	$-79058738931x^2 + 65040040053x - 12401912104$	$[1, -4, 0, 1]$	$3x^2 - 5x + 2$	-1	0.2868
44	$-12334214099x^2 + 91460651035x - 26352912977$	$[0, -1, 1, 1]$	$-x$	0	0.1153
45	$145986357778x^2 + 131899960895x - 52773523959$	$[1, -3, 1, 1]$	$3x^2 + x - 1$	-1	0.1261
46	$-262047739006x^2 + 207522032263x - 38687127076$	$[1, 3, -1, 1]$	$3x^2 - 5x + 1$	-1	0.09380
47	$541686240463x^2 + 147738540562x - 93212833819$	$[1, 2, -1, 1]$	$-3x^2 - x + 1$	-1	0.1720
48	$-902204598246x^2 + 961988089947x - 207522032263$	$[1, 4, 0, 1]$	$-3x^2 + 5x - 2$	-1	0.4172
49	$-360518357783x^2 + 1109726630509x - 300734866082$	$[0, 1, 1, 1]$	$-x$	0	0.1667
50	$-984901862149x^2 - 1197681679370x + 448473406644$	$[1, -3, -1, 1]$	$-3x^2 - x + 1$	1	0.08335
51	$-2968661533744x^2 + 3093486302104x - 661253223865$	$[1, 3, 1, 1]$	$-3x^2 + 5x - 1$	1	0.1284
52	$4577946900259x^2 + 411603687145x - 536428455505$	$[1, -2, -1, 1]$	$-3x^2 - x + 1$	1	0.1207
53	$-5812757961694x^2 - 11712951647117x + 4041518444754$	$[1, -3, -3, 1]$	$1 - 3x$	1	0.07831
54	$5313718550820x^2 + 37409133869165x - 11712951647117$	$[1, -2, -3, 1]$	$-3x^2 + 2x$	1	0.2636
55	$40951612903045x^2 - 6399233096297x - 1771239516940$	$[1, -9, -3, 1]$	$x$	1	0.09488
56	$117541120158315x^2 - 56606833158056x + 6399233096297$	$[0, -1, 3, 1]$	$3x^2 - 2x$	0	0.2580
57	$-21753913614154x^2 - 123940353254612x + 39180373386105$	$[1, -3, 0, 1]$	$-x$	1	0.08614
58	$341295594062137x^2 + 252208160351427x - 106513893482661$	$[1, 2, -3, 1]$	$-3x^2 - x + 1$	1	0.2803
59	$393574973377990x^2 - 176219732570465x + 17426459771951$	$[1, 3, 1, 1]$	$-3x^2 + 5x - 1$	1	0.08609
60	$-1097920075116418x^2 - 452136941387001x + 234781700579476$	$[1, -2, -1, 1]$	$-3x^2 - x + 1$	1	0.2875
61	$-1233004299449823x^2 + 957087090633287x - 176219732570465$	$[1, -4, 0, 1]$	$3x^2 - 5x + 2$	1	0.2789
62	$-135084224333405x^2 + 1409224032020288x - 411001433149941$	$[0, -1, 1, 1]$	$-x$	0	0.1094
63	$2454330899277421x^2 + 2137278182223825x - 863138374536942$	$[1, -3, 1, 1]$	$3x^2 + x - 1$	1	0.1424
64	$-4092587871727459x^2 + 3047481004470326x - 546085657483346$	$[1, 3, -1, 1]$	$3x^2 - 5x + 1$	1	0.09145
65	$8866165445948896x^2 + 2636299391997612x - 1591192524740479$	$[1, 2, -1, 1]$	$-3x^2 - x + 1$	1	0.1842
66	$-13916020587632415x^2 + 14327202200105129x - 3047481004470326$	$[1, 4, 0, 1]$	$-3x^2 + 5x - 2$	1	0.3699
67	$-5049855141683519x^2 + 16963501592102741x - 4638673529210805$	$[0, 1, 1, 1]$	$-x$	0	0.1557
68	$-16775063621941732x^2 - 19188619371627639x + 7274972921208417$	$[1, -3, -1, 1]$	$-3x^2 - x + 1$	-1	0.08551
69	$-45840649634624704x^2 + 46029087604785713x - 9688528670894324$	$[1, 3, 1, 1]$	$-3x^2 + 5x - 1$	-1	0.1136
70	$74340921736824649x^2 + 9311652730572306x - 9500090700733315$	$[1, -2, -1, 1]$	$-3x^2 - x + 1$	-1	0.1272
71	$-102275879928541567x^2 - 185210840377701696x + 64840831036091334$	$[1, -3, -3, 1]$	$1 - 3x$	-1	0.07826
72	$112305146677350699x^2 + 583038303276746189x - 185210840377701696$	$[1, -2, -3, 1]$	$-3x^2 + 2x$	-1	0.2560
73	$545603254384295956x^2 - 655943996977097186x + 147775791485251463$	$[1, -9, -4, 1]$	$x - 1$	-1	0.2267
74	$657908401061646655x^2 - 72905693700350997x - 37435048892450233$	$[0, 1, 1, 1]$	$3x^2 + x - 1$	0	0.09788
75	$1861420056507589266x^2 - 801755384377799180x + 72905693700350997$	$[0, 2, 3, 1]$	$3x^2 - 2x$	0	0.2586
76	$-439191319960593664x^2 - 1934325750207940263x + 620473352169196422$	$[1, -3, 0, 1]$	$-x$	-1	0.08386
77	$5698322473958606179x^2 + 4126560788167871432x - 1753043717999337505$	$[1, 2, -3, 1]$	$-3x^2 - x + 1$	-1	0.3123
78	$6242168570584414453x^2 - 2478171846833748537x + 181282032208602758$	$[1, 3, 1, 1]$	$-3x^2 + 5x - 1$	-1	0.08656
79	$-18078004838462220475x^2 - 7709275479709934590x + 3945278755959268674$	$[1, -2, -1, 1]$	$-3x^2 - x + 1$	-1	0.3116
80	$-19270351808379051633x^2 + 14039248175502865580x - 2478171846833748537$	$[1, -4, 0, 1]$	$3x^2 - 5x + 2$	-1	0.2723

Number:  $\xi = .7839\dots$  Equation:  $3x^3 - 2x^2 + x - 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.1694	0.3388
2	$-2x^2 - x + 2$	$[2, -1, -2, 1]$	$-3x^2 + 5x - 2$	-2	0.05150	0.1159
3	$-5x^2 - 5x + 7$	$[1, 3, 7, 2]$	$-3x^2 - x + 2$	-1	0.3958	0.7996
4	$8x^2 - 5x - 1$	$[1, -11, 3, 1]$	$3/7x^2 - 5/7x - 1/7$	-1	0.2272	0.3194
5	$11x^2 - 15x + 5$	$[0, 1, 2, 1]$	$-3x^2 + 2x$	0	0.2202	0.3630
6	$-4x^2 - 16x + 15$	$[1, 2, 1, 1]$	$-3x^2 + 2x$	1	0.06906	0.1341
7	$49x^2 - 18x - 16$	$[1, 3, -2, 1]$	$3x^2 - 2x$	1	0.1786	0.2217
8	$-54x^2 - 61x + 81$	$[1, 4, -1, 1]$	$3x - 2$	1	0.1716	0.3452
9	$-97x^2 + 99x - 18$	$[1, -3, -1, 1]$	$x$	1	0.2009	0.4005
10	$-43x^2 + 160x - 99$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.1447	0.2105
11	$254x^2 + 5x - 160$	$[1, -2, -1, 1]$	$-3x^2 + 2x$	1	0.1005	0.1405
12	$719x^2 + 175x - 579$	$[0, 1, 3, 1]$	$-3x^2 - x + 2$	0	0.5053	0.8630
13	$-734x^2 + 569x + 5$	$[1, 3, -2, 1]$	$3/7x^2 - 5/7x - 1/7$	-1	0.2314	0.3705
14	$958x^2 + 924x - 1313$	$[1, 2, 1, 1]$	$-3x^2 + 5x - 2$	-1	0.05628	0.1141
15	$2125x^2 + 4085x - 4508$	$[1, 2, 3, 1]$	$-3x^2 - x + 2$	-1	0.4162	0.8505
16	$-4897x^2 + 2660x + 924$	$[1, -11, 3, 1]$	$3/7x^2 - 5/7x - 1/7$	-1	0.2158	0.2872
17	$7980x^2 + 2349x - 6745$	$[1, 1, -1, 1]$	$3x - 2$	-1	0.2016	0.3630
18	$-7669x^2 + 9405x - 2660$	$[1, 2, 0, 1]$	$-x$	-1	0.2195	0.3829
19	$311x^2 + 11754x - 9405$	$[0, 1, 1, 1]$	$-3x^2 + 2x$	0	0.09450	0.1551
20	$-28526x^2 + 7367x + 11754$	$[1, -2, 1, 1]$	$3x^2 - 2x$	1	0.1534	0.1897
21	$22101x^2 + 49054x - 52034$	$[1, 4, -1, 1]$	$3x - 2$	1	0.1796	0.3715
22	$63788x^2 - 59401x + 7367$	$[1, -3, -1, 1]$	$x$	1	0.2115	0.3978
23	$41687x^2 - 108455x + 59401$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.1686	0.2440
24	$-136516x^2 - 31340x + 108455$	$[1, -2, -1, 1]$	$-3x^2 + 2x$	1	0.07363	0.1240
25	$-367861x^2 - 202475x + 384766$	$[0, 1, 3, 1]$	$-3x^2 - x + 2$	0	0.3669	0.8040
26	$461881x^2 - 322086x - 31340$	$[1, 3, -2, 1]$	$3/7x^2 - 5/7x - 1/7$	-1	0.2324	0.3464
27	$-410357x^2 - 758376x + 846647$	$[1, 2, 1, 1]$	$-3x^2 + 5x - 2$	-1	0.05934	0.1209
28	$2950298x^2 - 1345275x - 758376$	$[3, 7, -2, 1]$	$3x^2 - 2x$	-3	0.1986	0.2531
29	$4035825x^2 + 2534876x - 4467050$	$[1, -14, 2, 3]$	$2 - 3x$	-1	0.1601	0.3424
30	$-5225426x^2 + 5812325x - 1345275$	$[1, -3, 1, 1]$	$-x$	-1	0.2125	0.3957
31	$-1189601x^2 + 8347201x - 5812325$	$[0, 1, 1, 1]$	$-3x^2 + 2x$	0	0.1208	0.1819
32	$15057773x^2 + 6259353x - 14159526$	$[1, 3, 0, 1]$	$-3x^2 + 2x + 1$	1	0.2848	0.5859
33	$16247374x^2 - 2087848x - 8347201$	$[0, -1, 1, 1]$	$-6/5x^2 + 1/5x + 1/5$	0	0.1262	0.1616
34	$6263544x^2 + 37113281x - 32941776$	$[1, 3, 1, 1]$	$2 - 3x$	1	0.2316	0.4207
35	$41288977x^2 - 35029624x + 2087848$	$[1, 2, -1, 1]$	$x$	1	0.2247	0.3870
36	$70063439x^2 + 37109090x - 72142905$	$[1, 2, 1, 1]$	$3x^2 - 5x + 2$	1	0.05214	0.1151
37	$175164884x^2 + 183470175x - 251458339$	$[1, -1, 3, 1]$	$-3x^2 - x + 2$	1	0.3974	0.8018
38	$286492154x^2 - 177240159x - 37109090$	$[1, 11, -3, 1]$	$-3/7x^2 + 5/7x + 1/7$	1	0.2267	0.3172
39	$531720477x^2 + 43339106x - 360710334$	$[1, 1, 1, 1]$	$2 - 3x$	1	0.2746	0.4028
40	$-397819424x^2 + 537950493x - 177240159$	$[1, -2, 0, 1]$	$-x$	1	0.2203	0.3647

41	$133901053x^2 + 581289599x - 537950493$	$[0, 1, 1, 1]$	$-3x^2 + 2x$	0	0.0709
42	$1747752532x^2 - 628512440x - 581289599$	$[1, 2, -1, 1]$	$-3x^2 + 2x$	-1	0.1768
43	$1885537320x^2 + 2234596449x - 2910331730$	$[1, 4, 1, 1]$	$2 - 3x$	-1	0.1722
44	$3491621329x^2 - 3538844170x + 628512440$	$[1, 3, -1, 1]$	$x$	-1	0.1998
45	$1606084009x^2 - 5773440619x + 3538844170$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.1466
46	$9010448501x^2 + 301836288x - 5773440619$	$[1, 2, 1, 1]$	$3x^2 - 2x$	-1	0.0984
47	$-25425261494x^2 - 6678949483x + 20859166027$	$[0, 1, -3, 1]$	$3x^2 + x - 2$	0	0.4911
48	$26330770358x^2 - 20255493451x - 301836288$	$[1, 3, 2, 1]$	$3/7x^2 - 5/7x - 1/7$	1	0.2311
49	$33530201131x^2 + 33915228705x - 47189936385$	$[1, -2, -1, 1]$	$3x^2 - 5x + 2$	1	0.0565
50	$-73354324171x^2 - 148935622500x + 161825302606$	$[1, 2, -3, 1]$	$3x^2 + x - 2$	1	0.4173
51	$175100010286x^2 - 93994845196x - 33915228705$	$[1, 11, 3, 1]$	$3/7x^2 - 5/7x - 1/7$	1	0.2141
52	$281984535588x^2 + 88856006009x - 242930467696$	$[1, -1, 1, 1]$	$2 - 3x$	1	0.1958
53	$276845696401x^2 - 336925312892x + 93994845196$	$[1, 2, 0, 1]$	$x$	1	0.2192
54	$-5138839187x^2 - 425781318901x + 336925312892$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.0964
55	$1015914777863x^2 - 253208146070x - 425781318901$	$[1, 2, 1, 1]$	$3x^2 - 2x$	1	0.1514
56	$-759624438210x^2 - 1786842442426x + 1867477415665$	$[1, 4, -1, 1]$	$3x - 2$	1	0.1800
57	$-2293258734566x^2 + 2120685561735x - 253208146070$	$[1, -3, -1, 1]$	$x$	1	0.2121
58	$-1533634296356x^2 + 3907528004161x - 2120685561735$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.1703
59	$4828422388849x^2 + 1199791177047x - 3907528004161$	$[1, -2, -1, 1]$	$-3x^2 + 2x$	1	0.0716
60	$12951632870191x^2 + 7506901535302x - 13843269574218$	$[0, 1, 3, 1]$	$-3x^2 - x + 2$	0	0.3699
61	$-16551006401332x^2 + 11443687220124x + 1199791177047$	$[1, 3, -2, 1]$	$3/7x^2 - 5/7x - 1/7$	-1	0.2322
62	$14180681727899x^2 + 27657281467775x - 30394275975550$	$[1, 2, 1, 1]$	$-3x^2 + 5x - 2$	-1	0.0595
63	$-105363509654549x^2 + 47311952211224x + 27657281467775$	$[3, 7, -2, 1]$	$3x^2 - 2x$	-3	0.1977
64	$-141935856633672x^2 - 93711449635426x + 160678072590099$	$[1, -14, 2, 3]$	$2 - 3x$	-1	0.1612
65	$188335354057874x^2 - 207990024801323x + 47311952211224$	$[1, -3, 1, 1]$	$-x$	-1	0.2118
66	$46399497424202x^2 - 301701474436749x + 207990024801323$	$[0, 1, 1, 1]$	$-3x^2 + 2x$	0	0.1222
67	$-531171079555565x^2 - 233822396695054x + 509691499238072$	$[1, 3, 0, 1]$	$-3x^2 + 2x + 1$	1	0.2758
68	$577570576979767x^2 - 67879077741695x - 301701474436749$	$[0, 1, -1, 1]$	$6/5x^2 - 1/5x - 1/5$	0	0.1241
69	$-203637233225085x^2 - 1346916844806624x + 1180973525853265$	$[1, 3, 1, 1]$	$3x - 2$	-1	0.2374
70	$-1482675000290014x^2 + 1248852603594960x - 67879077741695$	$[1, -2, -1, 1]$	$x$	-1	0.2255
71	$2467520043719951x^2 + 1377102008276593x - 2595769448401584$	$[1, -2, -1, 1]$	$-3x^2 + 5x - 2$	-1	0.0525
72	$-6123522364094924x^2 - 6727075473231363x + 9036160948799712$	$[1, -1, -3, 1]$	$3x^2 + x - 2$	-1	0.3993
73	$-10254828388924703x^2 + 6281956932246526x + 1377102008276593$	$[1, -11, -3, 1]$	$-3/7x^2 + 5/7x + 1/7$	-1	0.2266
74	$18845870796739578x^2 + 1822220549261430x - 13009032405477889$	$[1, -1, -1, 1]$	$3x - 2$	-1	0.2688
75	$14386134413754482x^2 - 19290989337724415x + 6281956932246526$	$[1, -2, 0, 1]$	$x$	-1	0.2208
76	$-4459736382985096x^2 - 21113209886985845x + 19290989337724415$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.0728
77	$-62332704396158341x^2 + 21928505171448081x + 21113209886985845$	$[1, -2, -1, 1]$	$-3x^2 + 2x$	-1	0.1749
78	$-65785515514344243x^2 - 81815323714219714x + 104559124170130031$	$[1, 4, 1, 1]$	$2 - 3x$	-1	0.1733
79	$-125672334057115876x^2 + 126487629341578112x - 21928505171448081$	$[1, 3, -1, 1]$	$x$	-1	0.1988
80	$-59886818542771633x^2 + 208302953055797826x - 126487629341578112$	$[0, -1, 1, 1]$	$-3x^2 + 2x$	0	0.1488

Number:  $\xi = .5523\dots$  Equation:  $3x^3 - 2x^2 + 2x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3x^2 + x - 1$	-1	0.1426	0.4279
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-3/2x^2 + x - 1/2$	-1	0.2312	0.2890
3	$3x^2 + 2x - 2$	$[1, -2, 0, 1]$	$3x - 2$	-1	0.1784	0.3371
4	$-4x^2 + 4x - 1$	$[1, 3, 1, 1]$	$-x$	-1	0.1752	0.3614
5	$-x^2 + 6x - 3$	$[0, 1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.3195	0.4083
6	$7x^2 + 7x - 6$	$[1, 3, 0, 1]$	$-3x^2 + 2x$	1	0.08240	0.2253
7	$2x^2 + 17x - 10$	$[1, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	1	0.1136	0.1545
8	$-32x^2 + 5x + 7$	$[1, -5, 2, 1]$	$3x^2 - 2x + 1$	1	0.3263	0.3498
9	$-34x^2 - 12x + 17$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.08610	0.1183
10	$-85x^2 + 56x - 5$	$[1, 2, 3, 1]$	$-3x^2 + 2x - 1$	1	0.4361	0.6270
11	$-49x^2 - 87x + 63$	$[1, 3, -1, 1]$	$3/2x^2 - 5/2x + 3/2$	1	0.2635	0.4853
12	$-119x^2 + 44x + 12$	$[1, 1, 0, 1]$	$-3/2x^2 + x - 1/2$	1	0.1998	0.2292
13	$132x^2 + 186x - 143$	$[1, -2, -1, 1]$	$3x - 2$	1	0.1675	0.3508
14	$-274x^2 + 231x - 44$	$[1, 3, 1, 1]$	$-x$	1	0.2007	0.3485
15	$-142x^2 + 417x - 187$	$[0, 1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.3768	0.4963
16	$419x^2 + 185x - 230$	$[1, 2, -1, 1]$	$-3x^2 + 2x - 1$	-1	0.3084	0.4614
17	$277x^2 + 602x - 417$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.1488	0.2517
18	$-139x^2 + 1250x - 648$	$[1, 2, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	1	0.1500	0.1921
19	$1666x^2 + 1343x - 1250$	$[1, 4, -1, 1]$	$-3x^2 + 2x$	1	0.05047	0.1117
20	$-5416x^2 + 2823x + 93$	$[1, 5, -3, 1]$	$3x^2 - 2x + 1$	1	0.4323	0.5499
21	$-1387x^2 - 6945x + 4259$	$[1, -4, -1, 1]$	$3/2x^2 - 5/2x + 3/2$	1	0.4100	0.5805
22	$7082x^2 - 1480x - 1343$	$[1, -1, 0, 1]$	$3/2x^2 - x + 1/2$	1	0.1728	0.1865
23	$-11111x^2 + 11248x - 2823$	$[1, -1, -1, 1]$	$3x^2 - 2x + 1$	1	0.3533	0.7202
24	$-4440x^2 - 15233x + 9768$	$[1, -2, -1, 1]$	$3/2x^2 - 5/2x + 1/2$	1	0.2742	0.4103
25	$18193x^2 - 12728x + 1480$	$[1, -1, 0, 1]$	$-x$	1	0.2160	0.3232
26	$-19991x^2 - 19218x + 16713$	$[1, 2, 0, 1]$	$3x - 1$	1	0.1714	0.4495
27	$38184x^2 + 6490x - 15233$	$[0, 1, -1, 1]$	$9/4x^2 - 3/4x + 1/4$	0	0.3264	0.3878
28	$31946x^2 - 40689x + 12728$	$[1, 2, 0, 1]$	$x$	-1	0.2047	0.3510
29	$-6238x^2 - 47179x + 27961$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.2231	0.3054
30	$25708x^2 - 87868x + 40689$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.1809	0.2352
31	$-96359x^2 - 32198x + 47179$	$[1, -2, 0, 1]$	$-3x^2 + 2x - 1$	1	0.1763	0.2383
32	$-70651x^2 - 120066x + 87868$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.06399	0.1204
33	$334255x^2 - 126321x - 32198$	$[1, 2, -3, 1]$	$3x^2 - 2x + 1$	-1	0.4020	0.4631
34	$404906x^2 - 6255x - 120066$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.1379	0.1500
35	$765104x^2 - 651293x + 126321$	$[1, 2, 3, 1]$	$-3x^2 + 2x - 1$	-1	0.3991	0.6991
36	$783869x^2 + 506207x - 518717$	$[1, 3, -1, 1]$	$3/2x^2 - 5/2x + 3/2$	-1	0.2416	0.4482
37	$18765x^2 + 1157500x - 645038$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x$	0	0.3865	0.5067
38	$1170010x^2 - 657548x + 6255$	$[1, 1, 0, 1]$	$x$	-1	0.2181	0.2870
39	$802634x^2 + 1663707x - 1163755$	$[1, 1, 0, 1]$	$1 - 3x$	-1	0.2898	0.4990
40	$-1972644x^2 - 1006159x + 1157500$	$[0, -1, -1, 1]$	$9/4x^2 - 3/4x + 1/4$	0	0.2127	0.3413

41	$-2321255x^2 + 2472596x - 657548$	$[1, -2, 0, 1]$	$x$	-1	0.1846	0.3603
42	$-348611x^2 + 3478755x - 1815048$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.2961	0.3797
43	$4747922x^2 + 3676025x - 3478755$	$[1, -2, 0, 1]$	$-3x^2 + 2x$	-1	0.1045	0.2233
44	$2078056x^2 + 9627376x - 5951351$	$[1, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	-1	0.1004	0.1435
45	$-19932109x^2 + 4353382x + 3676025$	$[1, -5, 2, 1]$	$3x^2 - 2x + 1$	-1	0.3490	0.3775
46	$-22010165x^2 - 5273994x + 9627376$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.09947	0.1242
47	$35070311x^2 + 47459523x - 36911535$	$[1, 5, -1, 1]$	$3x^2 + x - 1$	-1	0.2162	0.4651
48	$-72902458x^2 + 30716929x + 5273994$	$[1, 4, 1, 1]$	$3/2x^2 - x + 1/2$	-1	0.2068	0.2446
49	$-92150787x^2 - 100193040x + 83450446$	$[1, -2, 0, 1]$	$2 - 3x$	-1	0.1340	0.3402
50	$161626898x^2 - 144884304x + 30716929$	$[1, -3, 1, 1]$	$-x$	-1	0.1925	0.3542
51	$69476111x^2 - 245077344x + 114167375$	$[0, 1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.3588	0.4655
52	$273026014x^2 + 86218705x - 130909969$	$[1, -2, 1, 1]$	$3x^2 - 2x + 1$	1	0.3610	0.4799
53	$203549903x^2 + 331296049x - 245077344$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.1242	0.2391
54	$27553106x^2 - 721257697x + 389961648$	$[1, 2, -1, 1]$	$3/2x^2 + 1/2x - 1/2$	1	0.1376	0.1781
55	$1114778732x^2 + 690145204x - 721257697$	$[1, 4, 1, 1]$	$3x^2 - 2x$	1	0.06230	0.1123
56	$-3278551823x^2 + 1867148922x - 31112493$	$[1, -5, -3, 1]$	$3x^2 - 2x + 1$	1	0.4368	0.5784
57	$1208116211x^2 + 3906472041x - 2526181633$	$[1, 4, 1, 1]$	$-3/2x^2 + 5/2x - 3/2$	1	0.3576	0.5414
58	$4393330555x^2 - 1177003718x - 690145204$	$[1, -1, 0, 1]$	$-3/2x^2 + x - 1/2$	1	0.1833	0.2010
59	$-6463766167x^2 + 6950624681x - 1867148922$	$[1, 1, -1, 1]$	$3x^2 - 2x + 1$	1	0.3719	0.7204
60	$3531011154x^2 + 8503089286x - 5773620963$	$[1, 2, 1, 1]$	$-3/2x^2 + 5/2x - 1/2$	1	0.2356	0.3848
61	$10857096722x^2 - 8127628399x + 1177003718$	$[1, -1, 0, 1]$	$x$	1	0.2121	0.3335
62	$-13525788475x^2 - 10055553891x + 9680093004$	$[1, -2, 0, 1]$	$3x - 1$	1	0.2163	0.4466
63	$-24382885197x^2 - 1927925492x + 8503089286$	$[0, -1, 1, 1]$	$-9/4x^2 + 3/4x - 1/4$	0	0.3670	0.4139
64	$-18183182290x^2 + 24758346084x - 8127628399$	$[1, -2, 0, 1]$	$x$	1	0.2090	0.3442
65	$6199702907x^2 + 26686271576x - 16630717685$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.1968	0.2839
66	$-11983479383x^2 + 51444617660x - 24758346084$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.1710	0.2198
67	$-62291558869x^2 - 13911404875x + 26686271576$	$[1, 2, 0, 1]$	$3x^2 - 2x + 1$	-1	0.2032	0.2506
68	$-50308079486x^2 - 65356022535x + 51444617660$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.05228	0.1156
69	$-204641932466x^2 + 87841292271x + 13911404875$	$[1, 2, 3, 1]$	$-3x^2 + 2x - 1$	-1	0.4154	0.4939
70	$-254950011952x^2 + 22485269736x + 65356022535$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.1507	0.1618
71	$451018079557x^2 - 408147326758x + 87841292271$	$[1, 2, -3, 1]$	$3x^2 - 2x + 1$	1	0.3823	0.7099
72	$-518473888765x^2 - 252850225279x + 297820764751$	$[1, 3, 1, 1]$	$-3/2x^2 + 5/2x - 3/2$	1	0.2914	0.4569
73	$-67455809208x^2 - 660997552037x + 385662057022$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x$	0	0.3475	0.4695
74	$-705968091509x^2 + 430632596494x - 22485269736$	$[1, -1, 0, 1]$	$x$	-1	0.2190	0.3006
75	$-585929697973x^2 - 913847777316x + 683482821773$	$[1, 1, 0, 1]$	$1 - 3x$	-1	0.2410	0.4750
76	$-1291897789482x^2 - 483215180822x + 660997552037$	$[0, 1, 1, 1]$	$-9/4x^2 + 3/4x - 1/4$	0	0.2515	0.3526
77	$1344480373810x^2 - 1522262745025x + 430632596494$	$[1, -2, 0, 1]$	$-x$	1	0.1929	0.3588
78	$52582584328x^2 - 2005477925847x + 1091630148531$	$[0, 1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.2713	0.3519
79	$-3169725276937x^2 - 1880278138960x + 2005477925847$	$[1, 2, 0, 1]$	$-3x^2 + 2x$	-1	0.1284	0.2250
80	$-1772662318799x^2 - 5408018809832x + 3527740670872$	$[1, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1/2$	-1	0.08739	0.1340

Number:  $\xi = .8586\dots$  Equation:  $3x^3 - 2x^2 + 3x - 3 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 + 2/3 x$	0	0.1214	0.2429
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 + 2/3 x$	-1	0.08003	0.1200
3	$6x^2 - 4x - 1$	[1, 6, -1, 1]	$2 - 3x$	-1	0.4146	0.6104
4	$-6x^2 - 3x + 7$	[1, 5, -2, 1]	$x - 1$	-1	0.07982	0.1531
5	$7x^2 - 13x + 6$	[1, 2, 1, 1]	$-x$	-1	0.2364	0.3552
6	$x^2 - 16x + 13$	[0, 1, 1, 1]	$-x^2 + 2/3 x$	0	0.05899	0.09816
7	$-36x^2 - 25x + 48$	[1, 7, 0, 1]	$-3x^2 + 2x$	1	0.2624	0.4812
8	$84x^2 - 43x - 25$	[1, 5, -2, 1]	$x^2 - 2/3 x$	1	0.1324	0.1788
9	$-71x^2 - 66x + 109$	[1, 2, 0, 1]	$x - 1$	1	0.03153	0.05647
10	$-540x^2 + 233x + 198$	[1, -6, 0, 1]	$-3x^2 + 2x$	1	0.3825	0.5051
11	$-413x^2 - 505x + 738$	[1, 7, 0, 1]	$1 - x$	1	0.1010	0.1800
12	$-1151x^2 + 400x + 505$	[1, 2, 0, 1]	$-x^2 + 2/3 x$	1	0.04049	0.05318
13	$1200x^2 + 4168x - 4463$	[1, -7, 1, 1]	$3x - 2$	1	0.3505	0.6814
14	$2351x^2 + 3768x - 4968$	[0, -1, 1, 1]	$-x^2$	0	0.3201	0.5759
15	$-7319x^2 + 1895x + 3768$	[1, 6, 0, 1]	$x^2 - 2/3 x$	1	0.1145	0.1525
16	$-11087x^2 + 11726x - 1895$	[1, 1, 2, 1]	$-x^2 + 2/3 x$	1	0.04840	0.09293
17	$35178x^2 + 4124x - 29471$	[1, -6, 1, 1]	$3x - 2$	1	0.2508	0.4302
18	$46265x^2 - 7602x - 27576$	[0, -1, 1, 1]	$-x^2$	0	0.3197	0.4419
19	$7602x^2 + 68773x - 64649$	[1, 5, 2, 1]	$2/3 - x$	1	0.1356	0.2570
20	$73841x^2 - 72251x + 7602$	[1, 1, -1, 1]	$x$	1	0.1342	0.2641
21	$66239x^2 - 141024x + 72251$	[0, -1, 1, 1]	$-x^2 + 2/3 x$	0	0.08063	0.1196
22	$423072x^2 - 300084x - 54215$	[1, 1, 5, 1]	$2 - 3x$	1	0.4177	0.6347
23	$-441108x^2 - 177203x + 477287$	[1, 5, -2, 1]	$x - 1$	1	0.07520	0.1498
24	$471275x^2 - 918395x + 441108$	[1, 2, 1, 1]	$-x$	1	0.2390	0.3571
25	$30167x^2 - 1095598x + 918395$	[0, 1, 1, 1]	$-x^2 + 2/3 x$	0	0.05604	0.09547
26	$-2664684x^2 - 1540505x + 3286794$	[1, 7, 0, 1]	$-3x^2 + 2x$	-1	0.2493	0.4679
27	$5951478x^2 - 3315375x - 1540505$	[1, 5, -2, 1]	$x^2 - 2/3 x$	-1	0.1347	0.1855
28	$-5299201x^2 - 4176608x + 7491983$	[1, 2, 0, 1]	$x - 1$	-1	0.03018	0.05466
29	$-38373552x^2 + 18351745x + 12529824$	[1, -6, 0, 1]	$-3x^2 + 2x$	-1	0.3914	0.5226
30	$-31142929x^2 - 32551631x + 50903376$	[1, 7, 0, 1]	$1 - x$	-1	0.09741	0.1737
31	$-82046305x^2 + 32526882x + 32551631$	[1, 2, 0, 1]	$-x^2 + 2/3 x$	-1	0.04169	0.05481
32	$97580646x^2 + 278740044x - 311242177$	[1, -7, 1, 1]	$3x - 2$	-1	0.3454	0.6563
33	$179626951x^2 + 246213162x - 343793808$	[0, -1, 1, 1]	$-x^2$	0	0.3106	0.5547
34	$-523420759x^2 + 162609661x + 246213162$	[1, 6, 0, 1]	$x^2 - 2/3 x$	-1	0.1186	0.1563
35	$-769633921x^2 + 850172528x - 162609661$	[1, 1, 2, 1]	$-x^2 + 2/3 x$	-1	0.05156	0.09569
36	$2550517584x^2 + 120727724x - 1983682441$	[1, -6, 1, 1]	$3x - 2$	-1	0.2671	0.4293
37	$3320151505x^2 - 729444804x - 1821072780$	[0, -1, 1, 1]	$-x^2$	0	0.3336	0.4501
38	$729444804x^2 + 4654927749x - 4534200025$	[1, 5, 2, 1]	$2/3 - x$	-1	0.1258	0.2483
39	$5141224285x^2 - 5263644829x + 729444804$	[1, 1, -1, 1]	$x$	-1	0.1382	0.2726
40	$4411779481x^2 - 9918572578x + 5263644829$	[0, -1, 1, 1]	$-x^2 + 2/3 x$	0	0.08082	0.1196



41	$29755717734x^2 - 22392741200x - 2708048785$	$[1, 1, 5, 1]$	$2 - 3x$	-1	0.4187
42	$-32311313778x^2 - 10071025319x + 32463766519$	$[1, 5, -2, 1]$	$x - 1$	-1	0.07050
43	$31611901171x^2 - 64775080297x + 32311313778$	$[1, 2, 1, 1]$	$-x$	-1	0.2410
44	$-699412607x^2 - 74846105616x + 64775080297$	$[0, 1, 1, 1]$	$-x^2 + 2/3x$	0	0.05300
45	$-196423478712x^2 - 92889918433x + 224538316848$	$[1, 7, 0, 1]$	$-3x^2 + 2x$	1	0.2358
46	$420961795560x^2 - 253225771511x - 92889918433$	$[1, 5, -2, 1]$	$x^2 - 2/3x$	1	0.1365
47	$-393546370031x^2 - 260625942482x + 513851713993$	$[1, 2, 0, 1]$	$x - 1$	1	0.02877
48	$-2722194252072x^2 + 1426464710633x + 781877827446$	$[1, -6, 0, 1]$	$-3x^2 + 2x$	1	0.3991
49	$-2333862794657x^2 - 2077607368885x + 3504072079518$	$[1, 7, 0, 1]$	$1 - x$	1	0.09353
50	$-5837934874175x^2 + 2592303478784x + 2077607368885$	$[1, 2, 0, 1]$	$-x^2 + 2/3x$	1	0.04277
51	$7776910436352x^2 + 18562019771612x - 21669019360295$	$[1, -7, 1, 1]$	$3x - 2$	1	0.3392
52	$13614845310527x^2 + 15969716292828x - 23746626729180$	$[0, -1, 1, 1]$	$-x^2$	0	0.3003
53	$-37361472039707x^2 + 13476213503819x + 15969716292828$	$[1, 6, 0, 1]$	$x^2 - 2/3x$	1	0.1225
54	$-53331188332535x^2 + 61484163072078x - 13476213503819$	$[1, 1, 2, 1]$	$-x^2 + 2/3x$	1	0.05464
55	$184452489216234x^2 - 3403401658008x - 133041137989967$	$[1, -6, 1, 1]$	$3x - 2$	1	0.2831
56	$-237783677548769x^2 + 64887564730086x + 119564924486148$	$[0, 1, -1, 1]$	$x^2$	0	0.3468
57	$64887564730086x^2 + 314090225548193x - 317493627206201$	$[1, 5, 2, 1]$	$x - 2/3$	-1	0.1186
58	$357348602034917x^2 - 382381191936287x + 64887564730086$	$[1, -1, -1, 1]$	$x$	-1	0.1477
59	$292461037304831x^2 - 696471417484480x + 382381191936287$	$[0, -1, 1, 1]$	$-x^2 + 2/3x$	0	0.08075
60	$-2089414252453440x^2 + 1662703298863328x + 112620728041919$	$[1, -1, -5, 1]$	$3x - 2$	-1	0.4184
61	$-269760463894368x^2 - 2202034980495359x + 2089414252453440$	$[1, 5, 1, 1]$	$-x$	-1	0.3989
62	$-2359174716347808x^2 - 539331681632031x + 2202034980495359$	$[0, 1, 1, 1]$	$-x^2 + 2/3x$	0	0.07544
63	$2112114825863903x^2 - 4561209696843167x + 2359174716347808$	$[1, -1, 1, 1]$	$-x$	1	0.2421
64	$-247059890483905x^2 - 5100541378475198x + 4561209696843167$	$[0, 1, 1, 1]$	$-x^2 + 2/3x$	0	0.04988
65	$-14424808761981216x^2 - 5438025070287545x + 15301624135425594$	$[1, 6, 0, 1]$	$-3x^2 + 2x$	-1	0.2219
66	$29726432897406810x^2 - 19187866448644067x - 5438025070287545$	$[1, 5, -2, 1]$	$x^2 - 2/3x$	-1	0.1379
67	$-29096677414446337x^2 - 15976591519050288x + 35164457967694355$	$[1, 2, 0, 1]$	$x - 1$	-1	0.02730
68	$-192783406146422076x^2 + 109689173621576857x + 47929774557150864$	$[1, -6, 0, 1]$	$-3x^2 + 2x$	-1	0.4056
69	$-173950309003717549x^2 - 131024007081996083x + 240713180703572940$	$[1, 7, 0, 1]$	$1 - x$	-1	0.08944
70	$-414663489707290489x^2 + 203401755724103426x + 131024007081996083$	$[1, 2, 0, 1]$	$-x^2 + 2/3x$	-1	0.04373
71	$610205267172310278x^2 + 1230258978919652864x - 1506038483285863633$	$[1, -7, 1, 1]$	$3x - 2$	-1	0.3320
72	$1024868756879600767x^2 + 1026857223195549438x - 1637062490367859716$	$[0, -1, 1, 1]$	$-x^2$	0	0.2892
73	$-2661931247247460483x^2 + 1089386527262624473x + 1026857223195549438$	$[1, 6, 0, 1]$	$x^2 - 2/3x$	-1	0.1260
74	$-3688788470443009921x^2 + 4435889256640451248x - 1089386527262624473$	$[1, 1, 2, 1]$	$-x^2 + 2/3x$	-1	0.05763
75	$13307667769921353744x^2 - 1073572683739746152x - 8887592356803780817$	$[1, -6, 1, 1]$	$3x - 2$	-1	0.2986
76	$16996456240364363665x^2 - 5509461940380197400x - 7798205829541156344$	$[0, -1, 1, 1]$	$-x^2$	0	0.3590
77	$5509461940380197400x^2 + 21121687442985388409x - 22195260126725134561$	$[1, 5, 2, 1]$	$2/3 - x$	-1	0.1175
78	$24794662069905520009x^2 - 27704722067105331961x + 5509461940380197400$	$[1, 1, -1, 1]$	$x$	-1	0.1572
79	$19285200129525322609x^2 - 48826409510090720370x + 27704722067105331961$	$[0, -1, 1, 1]$	$-x^2 + 2/3x$	0	0.08042
80	$146479228530272161110x^2 - 122911384832921468796x - 2446156254365303905$	$[1, 1, 5, 1]$	$2 - 3x$	-1	0.4166

Number:  $\xi = .3743\dots$  Equation:  $3x^3 - 2x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$3x^2 + x - 1$	-1	0.1151	0.2590
2	$-x^2 + 3x - 1$	$[1, -3, -1, 1]$	$x^2 + 1/3x + 1/3$	-1	0.1549	0.1894
3	$x^2 + 5x - 2$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.2891	0.3469
4	$-8x^2 + 3x$	$[1, 3, 3, 1]$	$x^2 - 5/3x + 2/3$	-1	0.1354	0.1544
5	$-16x^2 + 14x - 3$	$[1, 1, 2, 1]$	$-3x^2 + 2x - 1$	-1	0.3638	0.6550
6	$x^2 + 21x - 8$	$[1, -4, 2, 1]$	$-x^2 + 5/3x - 2/3$	-1	0.1146	0.1315
7	$-26x^2 - 25x + 13$	$[1, 1, -2, 1]$	$3x^2 - 2x + 1$	-1	0.1180	0.2567
8	$-27x^2 - 46x + 21$	$[0, -1, 1, 1]$	$-2x^2 + 1/3x - 1/3$	0	0.1806	0.2804
9	$-64x^2 + 48x - 9$	$[1, 4, 2, 1]$	$x$	-1	0.1308	0.2070
10	$-80x^2 - 117x + 55$	$[1, 2, 0, 1]$	$1 - 3x$	-1	0.05373	0.09072
11	$325x^2 + 44x - 62$	$[1, -3, -2, 1]$	$3x^2 - 2x + 1$	-1	0.2785	0.2937
12	$-405x^2 - 161x + 117$	$[0, 1, -1, 1]$	$2x^2 - 1/3x + 1/3$	0	0.2114	0.2624
13	$431x^2 - 522x + 135$	$[1, 6, 3, 1]$	$-x$	1	0.1314	0.2298
14	$1135x^2 + 366x - 296$	$[1, -2, 0, 1]$	$1 - 3x$	1	0.07635	0.08948
15	$3158x^2 - 995x - 70$	$[1, 3, 2, 1]$	$-3x^2 + 2x - 1$	1	0.3970	0.4366
16	$2060x^2 + 4030x - 1797$	$[1, 7, -2, 1]$	$-x^2 - 4/3x + 1/3$	1	0.1977	0.2887
17	$2233x^2 - 4659x + 1431$	$[1, 1, -1, 1]$	$x^2 + 1/3x + 1/3$	1	0.1581	0.2093
18	$173x^2 - 8689x + 3228$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.3693	0.4204
19	$9338x^2 + 11095x - 5461$	$[1, 3, 0, 1]$	$3x^2 - 2x + 1$	1	0.4045	0.7890
20	$11744x^2 - 2253x - 802$	$[1, 1, 1, 1]$	$-1/3x^2 + 5/9x + 1/9$	1	0.1234	0.1285
21	$-20909x^2 - 17531x + 9491$	$[1, -1, -1, 1]$	$3x^2 + x$	1	0.3109	0.5935
22	$-25894x^2 + 17854x - 3055$	$[1, -3, 0, 1]$	$3/7x^2 + 4/7x + 4/7$	1	0.4030	0.6003
23	$32653x^2 + 15278x - 10293$	$[1, -1, 0, 1]$	$x^2 + 4/3x - 1/3$	1	0.1960	0.2584
24	$4985x^2 - 35385x + 12546$	$[1, -1, 0, 1]$	$x^2 + 1/3x + 1/3$	1	0.1377	0.1577
25	$-27668x^2 - 50663x + 22839$	$[0, -1, 1, 1]$	$-3x^2 + 2x - 1$	0	0.1896	0.2847
26	$-22683x^2 - 86048x + 35385$	$[0, -1, 2, 1]$	$-2x^2 + 1/3x - 1/3$	0	0.2673	0.3311
27	$-101170x^2 + 58068x - 7561$	$[1, -2, -2, 1]$	$x$	-1	0.1383	0.1846
28	$-174204x^2 - 164691x + 86048$	$[1, 2, 1, 1]$	$2 - 3x$	-1	0.3597	0.7689
29	$179657x^2 - 202184x + 50507$	$[1, -2, 0, 1]$	$x^2 - x + 1$	-1	0.3710	0.6871
30	$73034x^2 + 222759x - 93609$	$[1, -1, 0, 1]$	$x^2 - 5/3x + 2/3$	-1	0.08239	0.1058
31	$-426895x^2 - 185266x + 129150$	$[1, -1, -1, 1]$	$3x^2 - 2x + 1$	-1	0.2033	0.2601
32	$-499929x^2 - 408025x + 222759$	$[0, -1, 1, 1]$	$-2x^2 + 1/3x - 1/3$	0	0.1362	0.2540
33	$741311x^2 - 722688x + 166643$	$[1, -4, -2, 1]$	$-x$	-1	0.1121	0.2244
34	$-1426753x^2 - 1001316x + 574668$	$[1, 2, 0, 1]$	$3x - 1$	-1	0.05104	0.08446
35	$4577510x^2 - 573457x - 426648$	$[1, 3, -2, 1]$	$3x^2 - 2x + 1$	-1	0.3529	0.3615
36	$6004263x^2 + 427859x - 1001316$	$[0, -1, 1, 1]$	$-2x^2 + 1/3x - 1/3$	0	0.2967	0.3065
37	$-4430701x^2 + 7005579x - 2001421$	$[1, -6, -3, 1]$	$-x$	-1	0.1512	0.2240
38	$2857139x^2 - 14439017x + 5004158$	$[0, -1, -2, 1]$	$3x^2 - 2x + 1$	0	0.4314	0.5002
39	$13728897x^2 + 14721278x - 7433438$	$[1, 3, 2, 1]$	$x^2 - 5/3x - 1/3$	-1	0.3664	0.7786
40	$-16586036x^2 - 282261x + 2429280$	$[0, -1, -1, 1]$	$x^2 - 2/3x + 1/3$	0	0.1041	0.1064

41	$23027093x^2 + 36448135x - 16868297$	[1, 0, 2, 1]	$3x^2 + x$	-1	0.3996	0.6447
42	$39613129x^2 + 36730396x - 19297577$	[0, -1, 1, 1]	$-\frac{12}{7}x^2 + 5/7x - 2/7$	0	0.1220	0.2559
43	$17432819x^2 - 57328209x + 19015316$	[1, -3, -2, 1]	$x^2 + 1/3x + 1/3$	-1	0.1529	0.1838
44	$-22180310x^2 - 94058605x + 38312893$	[0, -1, 1, 1]	$-3x^2 + 2x - 1$	0	0.2764	0.3377
45	$-4747491x^2 - 151386814x + 57328209$	[0, -1, 2, 1]	$-2x^2 + 1/3x - 1/3$	0	0.3500	0.4006
46	$154551808x^2 - 62075700x + 1582497$	[1, 2, 3, 1]	$-x$	1	0.1365	0.1586
47	$304356125x^2 - 275538214x + 60493203$	[0, 1, 2, 1]	$-3x^2 + 2x - 1$	0	0.3557	0.6613
48	$-31675292x^2 - 396832233x + 152969311$	[1, 2, 0, 1]	$-x^2 + 5/3x - 2/3$	-1	0.1106	0.1278
49	$522258517x^2 + 456050552x - 243862922$	[1, 1, -2, 1]	$3x^2 - 2x + 1$	-1	0.1287	0.2549
50	$553933809x^2 + 852882785x - 396832233$	[0, -1, 1, 1]	$-2x^2 + 1/3x - 1/3$	0	0.1677	0.2748
51	$1222171991x^2 - 950766042x + 184644603$	[1, 4, 2, 1]	$x$	-1	0.1289	0.2099
52	$1630126135x^2 + 2161816122x - 1037527388$	[1, 2, 0, 1]	$1 - 3x$	-1	0.04957	0.08917
53	$-6372834434x^2 - 618451333x + 1124288734$	[1, -3, -2, 1]	$3x^2 - 2x + 1$	-1	0.2893	0.3011
54	$-8002960569x^2 - 2780267455x + 2161816122$	[0, -1, 1, 1]	$-2x^2 + 1/3x - 1/3$	0	0.2230	0.2662
55	$-8115574501x^2 + 10164776691x - 2667653523$	[1, 6, 3, 1]	$x$	-1	0.1347	0.2298
56	$-22378755572x^2 - 6178986243x + 5447920978$	[1, 2, 0, 1]	$1 - 3x$	-1	0.08021	0.09108
57	$61101274078x^2 - 20916625042x - 731065265$	[1, -3, -2, 1]	$3x^2 - 2x + 1$	-1	0.4016	0.4487
58	$-42564315349x^2 - 74921377094x + 34005662793$	[1, 7, 2, 1]	$x^2 + 4/3x - 1/3$	-1	0.1847	0.2823
59	$-40915714301x^2 + 89659015893x - 27826676550$	[1, -1, -1, 1]	$x^2 + 1/3x + 1/3$	-1	0.1582	0.2064
60	$1648601048x^2 + 164580392987x - 61832339343$	[0, -1, 1, 1]	$-3x^2 + 2x - 1$	0	0.3581	0.4086
61	$188794220125x^2 + 203847506240x - 102748053644$	[1, -3, 0, 1]	$-3x^2 + 2x - 1$	-1	0.3690	0.7792
62	$-228061333378x^2 + 50391902640x + 13089037751$	[1, 1, -1, 1]	$1/3x^2 - 5/9x - 1/9$	-1	0.1258	0.1323
63	$418504154551x^2 + 318035996587x - 177669430738$	[1, 1, -1, 1]	$3x^2 + x$	-1	0.3365	0.5916
64	$-495389780009x^2 + 355023214160x - 63480940391$	[1, 3, 0, 1]	$-3/7x^2 - 4/7x - 4/7$	-1	0.3986	0.6099
65	$-646565487929x^2 - 267644093947x + 190758468489$	[1, -1, 0, 1]	$-x^2 - 4/3x + 1/3$	-1	0.2077	0.2613
66	$-76885625458x^2 + 673059210747x - 241150371129$	[1, 1, 0, 1]	$x^2 + 1/3x + 1/3$	-1	0.1346	0.1537
67	$569679862471x^2 + 940703304694x - 431908839618$	[0, -1, 1, 1]	$-3x^2 + 2x - 1$	0	0.1766	0.2786
68	$492794237013x^2 + 1613762515441x - 673059210747$	[0, -1, 2, 1]	$-2x^2 + 1/3x - 1/3$	0	0.2541	0.3219
69	$-1942292006783x^2 + 1165853447760x - 164264745671$	[1, 2, 2, 1]	$-x$	1	0.1378	0.1884
70	$3497560343280x^2 + 3002374887816x - 1613762515441$	[1, 2, -1, 1]	$3x - 2$	1	0.3918	0.7639
71	$-3391789776553x^2 + 3945469410961x - 1001588702089$	[1, 2, 0, 1]	$x^2 - x + 1$	1	0.3818	0.6886
72	$1555268336497x^2 + 4168228335576x - 1778027261112$	[1, 1, 0, 1]	$-x^2 + 5/3x - 2/3$	1	0.07796	0.1030
73	$8444618456330x^2 + 3225133812431x - 2390201074464$	[1, -1, 1, 1]	$-3x^2 + 2x - 1$	1	0.2149	0.2635
74	$9999886792827x^2 + 7393362148007x - 4168228335576$	[0, 1, 1, 1]	$-2x^2 + 1/3x - 1/3$	0	0.1473	0.2534
75	$-14059953343225x^2 + 14168115128403x - 3333295597609$	[1, 4, -2, 1]	$-x$	-1	0.1107	0.2258
76	$28444392041984x^2 + 18011858108445x - 10726657745616$	[1, 2, 0, 1]	$3x - 1$	-1	0.05482	0.08459
77	$-89068757320816x^2 + 13873991316326x + 7285200362829$	[1, 3, -2, 1]	$3x^2 - 2x + 1$	-1	0.3610	0.3722
78	$-117513149362800x^2 - 4137866792119x + 18011858108445$	[0, -1, 1, 1]	$-2x^2 + 1/3x - 1/3$	0	0.3072	0.3148
79	$82479966367319x^2 - 135525007471245x + 39171049787600$	[1, -6, -3, 1]	$-x$	-1	0.1529	0.2223
80	$47446783371838x^2 - 275187881734609x + 96353957683645$	[0, 1, 2, 1]	$-3x^2 + 2x - 1$	0	0.4235	0.4880

Number:  $\xi = .8241\dots$  Equation:  $3x^3 - x^2 - 1 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$1 + x - 3x^2$	0	0.1449	0.2899
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$1 + x - 3x^2$	-1	0.1237	0.1856
3	$2x^2 + 2x - 3$	$[1, 4, -3, 1]$	$3x^2 - x - 1$	-1	0.05941	0.1122
4	$11x^2 - 3x - 5$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	-1	0.1705	0.2184
5	$-20x^2 - 9x + 21$	$[1, -5, -1, 1]$	$3x - 2$	-1	0.2935	0.6136
6	$26x^2 - 19x - 2$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	-1	0.2032	0.3130
7	$32x^2 - 47x + 17$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0	0.1417	0.2260
8	$19x^2 + 62x - 64$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	1	0.05609	0.1137
9	$211x^2 - 21x - 126$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	1	0.1301	0.1778
10	$-274x^2 - 336x + 463$	$[1, -5, -1, 1]$	$3x - 2$	1	0.2959	0.5554
11	$589x^2 - 358x - 105$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	1	0.2164	0.3032
12	$904x^2 - 1052x + 253$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0	0.1473	0.2646
13	$-145x^2 + 1703x - 1305$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	-1	0.08238	0.1313
14	$3770x^2 + 543x - 3008$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	-1	0.08616	0.1428
15	$-2141x^2 - 10110x + 9786$	$[1, -5, -1, 1]$	$3x - 2$	-1	0.2927	0.5800
16	$12794x^2 - 6235x - 3551$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	-1	0.2118	0.2784
17	$8052x^2 + 20763x - 22580$	$[1, -2, 0, 1]$	$3x^2 - 4x + 1$	-1	0.1708	0.3369
18	$23447x^2 - 22580x + 2684$	$[1, 2, 0, 1]$	$x$	-1	0.1518	0.2945
19	$15395x^2 - 43343x + 25264$	$[0, -1, 1, 1]$	$1 + x - 3x^2$	0	0.1107	0.1623
20	$60397x^2 + 33474x - 68607$	$[1, 3, 1, 1]$	$3x^2 - x - 1$	-1	0.05918	0.1191
21	$266218x^2 - 95530x - 102081$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	-1	0.1902	0.2426
22	$-552808x^2 - 115183x + 470380$	$[1, -5, -1, 1]$	$3x - 2$	-1	0.3874	0.6846
23	$572461x^2 - 463829x - 6551$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	-1	0.1877	0.3109
24	$592114x^2 - 1042841x + 457278$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0	0.1329	0.2013
25	$779720x^2 + 1177677x - 1500119$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	1	0.05869	0.1107
26	$5280077x^2 - 1102162x - 2677796$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	1	0.1552	0.2019
27	$-8586563x^2 - 5829064x + 10635669$	$[1, -5, -1, 1]$	$3x - 2$	1	0.2974	0.5806
28	$13313465x^2 - 9060035x - 1575634$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	1	0.2106	0.3110
29	$18040367x^2 - 23949134x + 7484401$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0	0.1454	0.2421
30	$4412836x^2 + 34505100x - 31433535$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	-1	0.06441	0.1189
31	$98713441x^2 - 1341271x - 65938635$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	-1	0.1125	0.1627
32	$-102737254x^2 - 195133363x + 230590711$	$[1, -5, -1, 1]$	$3x - 2$	-1	0.2900	0.5552
33	$296529346x^2 - 165993347x - 64597364$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	-1	0.2167	0.2948
34	$490321438x^2 - 527120057x + 101395983$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0	0.1461	0.2779
35	$-186133489x^2 + 916045512x - 628516040$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	1	0.09417	0.1424
36	$1699414631x^2 + 473662961x - 1544561552$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	1	0.06917	0.1317
37	$-278425748x^2 - 5581010578x + 4788537735$	$[1, -5, -1, 1]$	$3x - 2$	1	0.3524	0.6127
38	$6333099287x^2 - 2770313222x - 2018224513$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	1	0.2050	0.2650
39	$2256266127x^2 + 11635684117x - 11121637022$	$[1, -2, 0, 1]$	$3x^2 - 4x + 1$	1	0.1792	0.3497
40	$12387772826x^2 - 11121637022x + 752088709$	$[1, 2, 0, 1]$	$x$	1	0.1674	0.3029

41	$10131506699x^2 - 22757321139x + 11873725731$	$[0, -1, 1, 1]$	$1 + x - 3x^2$	0
42	$25489670494x^2 + 21015102107x - 34631046870$	$[1, 3, 1, 1]$	$3x^2 - x - 1$	1
43	$129382811104x^2 - 39105615257x - 55646148977$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	1
44	$-246699656875x^2 - 88727216417x + 240675109058$	$[1, -5, -1, 1]$	$3x - 2$	1
45	$296321258035x^2 - 224134575338x - 16540533720$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	1
46	$345942859195x^2 - 536996367093x + 207594041618$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0
47	$276839265659x^2 + 675345184670x - 744590408711$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	-1
48	$2510610491792x^2 - 346084489700x - 1419935593381$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	-1
49	$-3548863960892x^2 - 3567637800743x + 5350481678554$	$[1, -5, -1, 1]$	$3x - 2$	-1
50	$6770417271935x^2 - 4276630574873x - 1073851103681$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	-1
51	$9991970582978x^2 - 12120898950489x + 3202779471192$	$[0, 1, 2, 1]$	$1 + x - 3x^2$	0
52	$-383632169402x^2 + 18910090062275x - 15323678421681$	$[1, -3, -2, 1]$	$3x^2 - x - 1$	1
53	$45587403095641x^2 + 3970043809996x - 34233768483956$	$[1, 4, 3, 1]$	$1 + x - 3x^2$	1
54	$-33677271665653x^2 - 110641393071860x + 114054940063553$	$[1, -5, -1, 1]$	$3x - 2$	1
55	$148288708547509x^2 - 75851127769601x - 38203812293952$	$[1, 4, 1, 1]$	$3/5x^2 - 4/5x - 1/5$	1
56	$112941946426947x^2 + 225252829953716x - 262343648611062$	$[1, -2, 0, 1]$	$3x^2 - 4x + 1$	1
57	$262900145429365x^2 - 262343648611062x + 37647315475649$	$[1, 2, 0, 1]$	$x$	1
58	$149958199002418x^2 - 487596478564778x + 299990964086711$	$[0, -1, 1, 1]$	$1 + x - 3x^2$	0
59	$750014693257715x^2 + 337563713480485x - 787587442651489$	$[1, 3, 1, 1]$	$3x^2 - x - 1$	1
60	$262676447183740x^2 - 3037889754915437x + 2325189578560693$	$[1, 5, -1, 1]$	$3x - 2$	1
61	$-3112777021212182x^2 + 1200038422428719x + 1125151156131974$	$[1, -4, -1, 1]$	$-3/5x^2 + 4/5x + 1/5$	1
62	$224661798890235x^2 + 6413343223311359x - 5437966599772875$	$[1, -2, 0, 1]$	$-3x^2 + 4x - 1$	1
63	$6488230489608104x^2 - 5437966599772875x + 74887266296745$	$[1, -2, 0, 1]$	$x$	1
64	$6263568690717869x^2 - 11851309823084234x + 5512853866069620$	$[0, -1, 1, 1]$	$1 + x - 3x^2$	0
65	$-10274992907490991x^2 - 12602024647732483x + 17364163689153854$	$[1, -3, -1, 1]$	$1 + x - 3x^2$	1
66	$62367483974952553x^2 - 15037131948912362x - 29966188336886337$	$[1, 4, -3, 1]$	$3x^2 - x - 1$	1
67	$-107478879821689639x^2 - 59824301112834287x + 122299860648725227$	$[1, 5, -1, 1]$	$3x - 2$	1
68	$-152266048985611564x^2 + 107370804260751252x + 14929056387973975$	$[1, -4, -1, 1]$	$-3/5x^2 + 4/5x + 1/5$	1
69	$-197053218149533489x^2 + 274565909634336791x - 92441747872777277$	$[0, -1, 2, 1]$	$1 + x - 3x^2$	0
70	$80272025468798342x^2 + 379177379911093003x - 367007657507114068$	$[1, -3, 2, 1]$	$1 + x - 3x^2$	1
71	$-1181294997990140546x^2 + 68102303064819407x + 746185037418207071$	$[1, 4, -3, 1]$	$3x^2 - x - 1$	1
72	$1385601907184598767x^2 + 2102350506124982399x - 2673665072826554688$	$[1, 5, -1, 1]$	$3x - 2$	1
73	$3419850110244761759x^2 - 1995582338473167024x - 678082734353387664$	$[1, -4, -1, 1]$	$-3/5x^2 + 4/5x + 1/5$	1
74	$5454098313304924751x^2 - 6093515183071316447x + 1317499604119779360$	$[0, -1, 2, 1]$	$1 + x - 3x^2$	0
75	$1501599500945586671x^2 - 10230113892256461838x + 7411014787191095807$	$[1, -3, 2, 1]$	$1 + x - 3x^2$	1
76	$20731444860627700750x^2 + 4320698606010952702x - 17641128679447557645$	$[1, 4, -3, 1]$	$3x^2 - x - 1$	1
77	$-7769349042594842644x^2 - 61564783250364578339x + 56013702219522816040$	$[1, 5, -1, 1]$	$3x - 2$	1
78	$-73654830898970373685x^2 + 34051874934064305693x + 21961827285458510347$	$[1, -4, -1, 1]$	$-3/5x^2 + 4/5x + 1/5$	1
79	$36270142945817386038x^2 + 127450265106740109380x - 129668533118493189725$	$[1, -2, 0, 1]$	$-3x^2 + 4x - 1$	1
80	$139540312755345904726x^2 - 129668533118493189725x + 12090047648605795346$	$[1, -2, 0, 1]$	$x$	1

Number:  $\xi = .8552\dots$  Equation:  $3x^3 - x^2 + x - 2 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.1239	0.2477
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	-1	0.08391	0.1259
3	$x^2 + 5x - 5$	[1, 5, -5, 1]	$3x^2 - x - 1$	-1	0.1777	0.3624
4	$8x^2 - x - 5$	[1, 5, 2, 1]	$-3/2x^2 + 1/2x$	-1	0.3044	0.4281
5	$9x^2 + 4x - 10$	[0, 1, 1, 1]	$-3/5x^2 - x + 4/5$	0	0.2350	0.4629
6	$7x^2 - 13x + 6$	[1, -2, 1, 1]	$x$	1	0.3396	0.5103
7	$-2x^2 - 17x + 16$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.09835	0.1868
8	$26x^2 + 7x - 25$	[1, 2, 0, 1]	$3/2x^2 - 1/2x - 1/2$	1	0.03896	0.07781
9	$-5x^2 - 115x + 102$	[1, 6, 0, 1]	$3x - 2$	1	0.4310	0.7709
10	$-127x^2 + 63x + 39$	[1, -5, -1, 1]	$-3/8x^2 + \frac{7}{8}x + 1/8$	1	0.3149	0.4221
11	$158x^2 + 59x - 166$	[1, -1, -1, 1]	$3/2x - 1$	1	0.1521	0.3091
12	$-194x^2 - 296x + 395$	[1, -1, -2, 1]	$3/4x^2 + 5/4x - 5/4$	1	0.3165	0.5705
13	$-407x^2 + 182x + 142$	[1, -3, -1, 1]	$-3/7x^2 + 4/7x + 2/7$	1	0.1549	0.2047
14	$-620x^2 + 660x - 111$	[0, -1, 2, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.06898	0.1318
15	$2313x^2 + 756x - 2338$	[2, -4, -3, 1]	$-3x^2 + 4x - 2$	2	0.6693	1.394
16	$1693x^2 + 1416x - 2449$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.2153	0.3903
17	$786x^2 + 3865x - 3880$	[1, 8, 3, 2]	$-3/5x^2 - x + 4/5$	-1	0.2670	0.5429
18	$4127x^2 - 4142x + 524$	[1, 2, -2, 1]	$x$	-1	0.2602	0.5227
19	$6606x^2 + 1139x - 5805$	[1, 1, 1, 1]	$3/4x^2 - 7/4x + 3/4$	-1	0.1311	0.2362
20	$-3341x^2 + 8007x - 4404$	[1, -1, 0, 1]	$-x$	-1	0.1647	0.2432
21	$3265x^2 + 9146x - 10209$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.04535	0.08638
22	$37157x^2 + 1553x - 28501$	[1, 5, 0, 1]	$1 + x - 3x^2$	1	0.2035	0.3235
23	$-61330x^2 + 50631x + 1553$	[1, 5, -2, 1]	$3/2x^2 - 1/2x$	1	0.3711	0.6242
24	$16249x^2 + 62883x - 65658$	[1, 2, 1, 1]	$-6/5x^2 + x - 2/5$	1	0.1796	0.3554
25	$114736x^2 + 13805x - 95712$	[1, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	1	0.09291	0.1589
26	$-258304x^2 + 148787x + 61661$	[1, 2, -2, 1]	$3/2x^2 - 1/2x - 1/2$	1	0.07976	0.1108
27	$704665x^2 + 145713x - 639930$	[1, 6, 0, 1]	$3x - 2$	1	0.3356	0.6268
28	$701591x^2 - 875843x + 235913$	[1, -5, -1, 1]	$-3/8x^2 + \frac{7}{8}x + 1/8$	1	0.3106	0.5325
29	$-3074x^2 - 1021556x + 875843$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.2828	0.4908
30	$-966043x^2 - 1018482x + 1577434$	[1, -2, 1, 1]	$-9/5x^2 + 2/5$	1	0.6180	1.107
31	$1664560x^2 - 878917x - 465678$	[1, 1, -1, 1]	$3/7x^2 - 4/7x - 2/7$	1	0.3172	0.4305
32	$-969117x^2 - 2040038x + 2453277$	[1, 1, 0, 1]	$-3/4x^2 + 7/4x - 3/4$	1	0.1365	0.2521
33	$2363077x^2 - 2776316x + 646078$	[1, 2, 0, 1]	$-x$	1	0.1495	0.2658
34	$1393960x^2 - 4816354x + 3099355$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.07618	0.1141
35	$6510145x^2 + 9321273x - 12732063$	[1, -5, 0, 1]	$3x^2 - x - 1$	-1	0.1803	0.3241
36	$22353167x^2 - 8215540x - 9321273$	[1, 5, 2, 1]	$-3/2x^2 + 1/2x$	-1	0.3721	0.4870
37	$-28863312x^2 - 1105733x + 22053336$	[0, -1, -1, 1]	$3/5x^2 + x - 4/5$	0	0.3064	0.4858
38	$10726837x^2 - 31674440x + 19242208$	[1, -2, 1, 1]	$-x$	-1	0.3156	0.4682
39	$-18136475x^2 - 32780173x + 41295544$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.09085	0.1656
40	$80079791x^2 - 6004074x - 53427945$	[1, -2, 0, 1]	$3/2x^2 - 1/2x - 1/2$	1	0.05786	0.08395

41	$-98092013x^2 - 228355478x + 267015472$	[1, 6, 0, 1]	$3x - 2$	1	0.3638	0.0
42	$-320443417x^2 + 225595675x + 41419797$	[1, -5, -1, 1]	$-3/8x^2 + 7/8x + 1/8$	1	0.3139	0.0
43	$-222351404x^2 + 453951153x - 225595675$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.4216	0.0
44	$498615221x^2 - 3244271x - 361863214$	[1, -1, -1, 1]	$-6/5x^2 + x - 2/5$	1	0.2149	0.0
45	$774879038x^2 + 447462611x - 949322103$	[0, 1, 2, 1]	$-3/4x^2 - 5/4x + 5/4$	0	0.2862	0.0
46	$-1041410042x^2 + 682791099x + 177687336$	[1, 1, -1, 1]	$3/7x^2 - 4/7x - 2/7$	-1	0.1587	0.0
47	$-1307941046x^2 + 1813044809x - 593947431$	[0, 1, 2, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.08149	0.0
48	$-834039799x^2 + 5648024279x - 4220037049$	[1, 5, 5, 1]	$1 + x - 3x^2$	1	0.2679	0.0
49	$-5913035674x^2 - 1548033414x + 5648024279$	[1, 5, -2, 1]	$3/2x^2 - 1/2x$	1	0.1965	0.0
50	$-5078995875x^2 - 7196057693x + 9868061328$	[0, -1, 1, 1]	$-3/5x^2 - x + 4/5$	0	0.2704	0.0
51	$-8889056318x^2 + 11561059953x - 3385997250$	[1, 2, 1, 1]	$x$	1	0.3174	0.0
52	$-3810060443x^2 + 18757117646x - 13254058578$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.1415	0.0
53	$-16071027424x^2 - 15940148800x + 25384146935$	[1, 2, 0, 1]	$3/2x^2 - 1/2x - 1/2$	1	0.04389	0.0
54	$-108294495653x^2 + 25645904183x + 57264444535$	[1, 5, 5, 1]	$1 + x - 3x^2$	1	0.2706	0.0
55	$-140043914629x^2 + 149749670012x - 25645904183$	[1, -5, 2, 1]	$-3/2x^2 + 1/2x$	1	0.3463	0.0
56	$-92616104101x^2 - 114398010446x + 165558940188$	[1, 2, -1, 1]	$6/5x^2 - x + 2/5$	1	0.1788	0.0
57	$-340954514383x^2 + 60997563749x + 197177480540$	[1, 1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	1	0.1284	0.0
58	$-636720735193x^2 + 500540818402x + 37591176521$	[1, -2, 2, 1]	$-3/2x^2 + 1/2x + 1/2$	1	0.07587	0.0
59	$-2138343190399x^2 + 251587372048x + 1348623823428$	[1, 6, 0, 1]	$2 - 3x$	1	0.4839	0.0
60	$752128190450x^2 + 2060526911663x - 2312114283711$	[1, 5, -2, 1]	$-3/8x^2 + 7/8x - 7/8$	1	0.2268	0.0
61	$-3527192116042x^2 - 1308398721213x + 3698329283660$	[1, 1, -1, 1]	$9/5x^2 - 2/5$	1	0.5318	1.0
62	$-4161278925541x^2 + 3064242474161x + 422724539666$	[1, 2, 1, 1]	$-3/7x^2 + 4/7x + 2/7$	1	0.3104	0.0
63	$4279320306492x^2 + 3368925632876x - 6010443567371$	[1, -1, 0, 1]	$-3/4x^2 + 7/4x - 3/4$	1	0.1282	0.0
64	$4795365735040x^2 - 7436883669535x + 2852880204328$	[1, -2, 0, 1]	$x$	1	0.1679	0.0
65	$516045428548x^2 - 10805809302411x + 8863323771699$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.06003	0.0
66	$-25557880458001x^2 - 13780385690219x + 30474942376521$	[1, -5, 0, 1]	$1 + x - 3x^2$	1	0.1617	0.0
67	$58491353793782x^2 - 33905158801152x - 13780385690219$	[1, 5, -2, 1]	$3/2x^2 - 1/2x$	1	0.3988	0.0
68	$7891638306328x^2 - 72271739484001x + 56032822834522$	[1, 2, 1, 1]	$-6/5x^2 + x - 2/5$	1	0.2572	0.0
69	$-76157595945455x^2 - 52146966373068x + 100288150901262$	[1, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	1	0.08388	0.0
70	$226589822297348x^2 - 74154705023018x - 102291041823699$	[1, 2, -2, 1]	$3/2x^2 - 1/2x - 1/2$	1	0.07253	0.0
71	$-449053937366402x^2 - 385153537722409x + 657761728242094$	[1, 6, 0, 1]	$3x - 2$	1	0.3456	0.0
72	$-760052770065793x^2 + 703780096464431x - 46018368222337$	[1, -5, -1, 1]	$-3/8x^2 + 7/8x + 1/8$	1	0.2764	0.0
73	$-310998832699391x^2 + 1088933634186840x - 703780096464431$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.3798	0.0
74	$1124697697030152x^2 + 696152370421800x - 1417814498307887$	[1, -2, 0, 1]	$-6/5x^2 + x + 3/5$	1	0.3719	0.0
75	$1435696529729543x^2 - 392781263765040x - 714034401843456$	[0, -1, 1, 1]	$-x^2$	0	0.2789	0.0
76	$53646094264968x^2 + 2488866101073071x - 2167612962994655$	[1, 1, 1, 1]	$3/4x^2 - 7/4x + 3/4$	1	0.1660	0.0
77	$2506748132494727x^2 - 2185494994416311x + 35764062843312$	[1, 1, -1, 1]	$x$	1	0.1440	0.0
78	$2453102038229759x^2 - 4674361095489382x + 2203377025837967$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	0	0.08480	0.0
79	$1703927001054383x^2 + 12051549241600315x - 11552099216816731$	[1, 5, 0, 1]	$3x^2 - x - 1$	1	0.1909	0.0
80	$18180112325752288x^2 - 1454201988662591x - 12051549241600315$	[1, 5, 2, 1]	$-3/2x^2 + 1/2x$	1	0.2909	0.0

Number:  $\xi = .6350\dots$  Equation:  $3x^3 - x^2 + x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3x - 2$	-1	0.03828	0.1148
2	$-4x^2 + x + 1$	$[2, -3, 1, 1]$	$-3x^2 + x$	-2	0.3520	0.3960
3	$-5x^2 + 2$	$[0, 1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.4070	0.4721
4	$2x^2 - 6x + 3$	$[1, 9, -3, 2]$	$x^2 - 4/3x + 2/3$	1	0.1308	0.1781
5	$-7x^2 - 5x + 6$	$[1, 1, 1, 1]$	$-3x^2 + x$	1	0.1023	0.2297
6	$-5x^2 - 11x + 9$	$[0, 1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.1870	0.3508
7	$-12x^2 - 16x + 15$	$[0, 1, 2, 1]$	$-2x^2 - 1/3x + 2/3$	0	0.1391	0.3395
8	$-20x^2 + 19x - 4$	$[1, -4, 1, 1]$	$x$	1	0.1380	0.2680
9	$-8x^2 + 35x - 19$	$[0, -1, 1, 1]$	$-3x^2 + x$	0	0.2429	0.3271
10	$-49x^2 - 24x + 35$	$[1, 2, 1, 1]$	$3x^2 - x$	1	0.2736	0.4788
11	$-41x^2 - 59x + 54$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.2935	0.6811
12	$-77x^2 + 30x + 12$	$[1, 1, 1, 1]$	$-1/2x^2 + 2/3x + 1/6$	1	0.1941	0.2283
13	$-90x^2 - 83x + 89$	$[1, 1, 0, 1]$	$1 - 3x$	1	0.2401	0.6790
14	$113x^2 - 119x + 30$	$[1, -2, 0, 1]$	$-x$	1	0.2665	0.5238
15	$-167x^2 - 53x + 101$	$[1, 1, 0, 1]$	$-3/2x^2 + 2x - 1/2$	1	0.08669	0.1271
16	$470x^2 - 215x - 53$	$[1, 2, -2, 1]$	$3x^2 - x$	1	0.3946	0.4822
17	$478x^2 + 361x - 422$	$[1, -5, -1, 1]$	$3/2x^2 - 2x + 3/2$	1	0.3408	0.8007
18	$8x^2 + 576x - 369$	$[0, -1, 1, 1]$	$-3/7x^2 - 5/7x + 3/7$	0	0.09790	0.1381
19	$-1115x^2 - 199x + 576$	$[1, -1, -1, 1]$	$3x^2 - x$	1	0.2108	0.2738
20	$-1123x^2 - 775x + 945$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.1582	0.3457
21	$-2238x^2 - 974x + 1521$	$[0, -1, 2, 1]$	$-2x^2 - 1/3x + 2/3$	0	0.2209	0.3648
22	$-1720x^2 + 2267x - 746$	$[1, 4, 2, 1]$	$x$	-1	0.1440	0.2424
23	$518x^2 + 3241x - 2267$	$[0, -1, 1, 1]$	$-3x^2 + x$	0	0.1691	0.2562
24	$-1202x^2 + 5508x - 3013$	$[0, -1, 2, 1]$	$-3/2x^2 - x + 1/2$	0	0.3614	0.4867
25	$-7319x^2 - 456x + 3241$	$[1, 2, 1, 1]$	$x^2 - 4/3x - 1/3$	1	0.4956	0.5948
26	$7837x^2 + 3697x - 5508$	$[1, 0, -1, 1]$	$3/2x^2 + x - 1/2$	1	0.4205	0.7217
27	$-8521x^2 + 5052x + 228$	$[1, 1, 0, 1]$	$1/2x^2 - 2/3x - 1/6$	1	0.1931	0.2611
28	$-9205x^2 + 13801x - 5052$	$[0, 1, 2, 1]$	$-3x^2 + x$	0	0.2911	0.4596
29	$-5951x^2 - 17954x + 13801$	$[1, -2, -2, 1]$	$3x^2 - x$	-1	0.2831	0.4815
30	$-23677x^2 + 899x + 8977$	$[1, 1, 1, 1]$	$-3/2x^2 + 1/2x$	-1	0.1415	0.1620
31	$26374x^2 + 48810x - 41631$	$[1, -2, -1, 1]$	$3x - 2$	-1	0.05708	0.1153
32	$-151267x^2 + 19195x + 48810$	$[2, 7, 1, 1]$	$3x^2 - x$	-2	0.3151	0.3530
33	$-177641x^2 - 29615x + 90441$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.3215	0.4138
34	$-120056x^2 + 248887x - 109636$	$[1, 9, 3, 2]$	$-x^2 + 4/3x - 2/3$	-1	0.1409	0.2010
35	$-208852x^2 - 259307x + 248887$	$[1, 1, -1, 1]$	$3x^2 - x$	-1	0.08790	0.2259
36	$-88796x^2 - 508194x + 358523$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.2498	0.3818
37	$-297648x^2 - 767501x + 607410$	$[0, -1, 2, 1]$	$-2x^2 - 1/3x + 2/3$	0	0.2003	0.3558
38	$-866717x^2 + 706626x - 99216$	$[1, 4, 1, 1]$	$x$	1	0.1622	0.2721
39	$-569069x^2 + 1474127x - 706626$	$[0, -1, 1, 1]$	$-3x^2 + x$	0	0.2697	0.3718
40	$-1550809x^2 - 1336570x + 1474127$	$[1, 2, 1, 1]$	$3x^2 - x$	1	0.1715	0.4539



41	$-981740x^2 - 2810697x + 2180753$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.4169	0.7187
42	$-2986595x^2 + 844183x + 668285$	$[1, 1, 1, 1]$	$-1/2x^2 + 2/3x + 1/6$	1	0.1828	0.2066
43	$-2532549x^2 - 4147267x + 3654880$	$[1, 1, 0, 1]$	$1 - 3x$	1	0.3191	0.6858
44	$4991450x^2 - 4499063x + 844183$	$[1, -2, 0, 1]$	$-x$	1	0.2935	0.5403
45	$-5519144x^2 - 3303084x + 4323165$	$[1, 1, 0, 1]$	$-3/2x^2 + 2x - 1/2$	1	0.05927	0.1169
46	$18488639x^2 - 6539225x - 3303084$	$[1, 2, -2, 1]$	$3x^2 - x$	1	0.3822	0.4423
47	$14098531x^2 + 18555582x - 17468558$	$[1, -5, -1, 1]$	$3/2x^2 - 2x + 3/2$	1	0.3214	0.7919
48	$-24007783x^2 + 3236141x + 7626249$	$[1, -1, 0, 1]$	$\frac{12}{7}x^2 - 1/7x + 2/7$	1	0.4769	0.5337
49	$4390108x^2 - 25094807x + 14165474$	$[1, -1, 0, 1]$	$x^2 - 4/3x + 2/3$	1	0.1163	0.1569
50	$38106314x^2 + 15319441x - 25094807$	$[1, -1, 0, 1]$	$3x^2 - x$	1	0.1541	0.2459
51	$33716206x^2 + 40414248x - 39260281$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.1283	0.3386
52	$71822520x^2 + 55733689x - 64355088$	$[0, -1, 2, 1]$	$-2x^2 - 1/3x + 2/3$	0	0.1424	0.3425
53	$-79674529x^2 + 88295928x - 23940840$	$[1, -4, -1, 1]$	$-x$	-1	0.1367	0.2580
54	$-7852009x^2 + 144029617x - 88295928$	$[0, 1, 1, 1]$	$-3x^2 + x$	0	0.2090	0.2882
55	$-87526538x^2 + 232325545x - 112236768$	$[0, 1, 2, 1]$	$-3/2x^2 - x + 1/2$	0	0.4024	0.5535
56	$249183766x^2 + 207615315x - 232325545$	$[1, 3, 0, 1]$	$-3x^2 + x$	-1	0.2661	0.6821
57	$-344562313x^2 + 168739847x + 31792849$	$[1, 1, -1, 1]$	$1/2x^2 - 2/3x - 1/6$	-1	0.1976	0.2467
58	$506219541x^2 + 271201013x - 376355162$	$[1, 1, -1, 1]$	$3x - 1$	-1	0.3860	0.7102
59	$-439940860x^2 + 545095009x - 168739847$	$[1, 2, 0, 1]$	$-x$	-1	0.2842	0.4966
60	$-784503173x^2 + 713834856x - 136946998$	$[1, 0, 1, 1]$	$-3/2x^2 - x + 1/2$	-1	0.4356	0.8095
61	$66278681x^2 + 816296022x - 545095009$	$[1, 1, 0, 1]$	$-x^2 + 4/3x + 1/3$	-1	0.3663	0.5321
62	$-850781854x^2 - 102461166x + 408148011$	$[0, 1, -1, 1]$	$3/2x^2 - 1/2x$	0	0.1144	0.1423
63	$-2075225887x^2 + 1156468699x + 102461166$	$[1, 2, -1, 1]$	$-3x^2 + x$	1	0.3910	0.5134
64	$543398356x^2 + 2280148219x - 1667077876$	$[1, -3, 1, 1]$	$-3/2x^2 + 2x - 1/2$	1	0.07797	0.1241
65	$-5544631984x^2 - 69671987x + 2280148219$	$[1, 2, -1, 1]$	$3x^2 - x$	1	0.2650	0.3098
66	$-6088030340x^2 - 2349820206x + 3947226095$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.2364	0.3710
67	$6297046301x^2 - 10104928422x + 3877554108$	$[1, -5, -2, 1]$	$x^2 - 4/3x + 2/3$	1	0.1454	0.2232
68	$-5335616023x^2 - 12524420615x + 10104928422$	$[1, 1, 1, 1]$	$-3x^2 + x$	1	0.1283	0.2352
69	$961430278x^2 - 22629349037x + 13982482530$	$[0, 1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.3100	0.4290
70	$-4374185745x^2 - 35153769652x + 24087410952$	$[0, 1, 2, 1]$	$-2x^2 - 1/3x + 2/3$	0	0.2630	0.3905
71	$-36611831567x^2 + 25545472867x - 1458061915$	$[1, -4, 1, 1]$	$x$	1	0.1812	0.2696
72	$-32237645822x^2 + 60699242519x - 25545472867$	$[0, -1, 1, 1]$	$-3x^2 + x$	0	0.2862	0.4176
73	$-44398772779x^2 - 67391415474x + 60699242519$	$[1, 2, 1, 1]$	$3x^2 - x$	1	0.2027	0.4552
74	$-113248250168x^2 + 18853299912x + 33695707737$	$[1, 1, 1, 1]$	$-3/2x^2 + 1/2x$	1	0.1645	0.1837
75	$169808149904x^2 + 176628773555x - 180639665642$	$[1, -2, -1, 1]$	$3x - 2$	1	0.03974	0.1128
76	$-711727146830x^2 + 173819041991x + 176628773555$	$[2, 7, 1, 1]$	$3x^2 - x$	2	0.3546	0.3975
77	$-881535296734x^2 - 2809731564x + 357268439197$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.4024	0.4686
78	$-360078170761x^2 + 1064984693940x - 531087481188$	$[1, 9, 3, 2]$	$-x^2 + 4/3x - 2/3$	1	0.1311	0.1787
79	$-1233184272803x^2 - 893975383513x + 1064984693940$	$[1, 1, -1, 1]$	$3x^2 - x$	1	0.1010	0.2295
80	$-873106102042x^2 - 1958960077453x + 1596072175128$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.1887	0.3514

Number:  $\xi = .8758\dots$  Equation:  $3x^3 - x^2 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 + 1/3x + 1/3$	0	0.1088	0.2175
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 + 1/3x + 1/3$	-1	0.06168	0.09252
3	$7x^2 - 5x - 1$	[1, 7, -1, 1]	$2 - 3x$	-1	0.4741	0.7257
4	$-7x^2 - 3x + 8$	[1, 6, -2, 1]	$-3/11x^2 + \frac{10}{11}x - \frac{10}{11}$	-1	0.1995	0.3802
5	$8x^2 - 15x + 7$	[1, 2, 1, 1]	$3/7x^2 - x + 2/7$	-1	0.1833	0.2753
6	$-22x^2 + x + 16$	[1, 3, -1, 1]	$-x^2 + 4/3x - 1$	-1	0.2363	0.3617
7	$-14x^2 - 14x + 23$	[0, 1, 1, 1]	$-3/7x^2 - 5/7x + 2/7$	0	0.1727	0.3006
8	$-36x^2 - 13x + 39$	[0, 1, 2, 1]	$-6/5x^2 - 1/5x + 3/5$	0	0.2461	0.4830
9	$25x^2 - 63x + 36$	[1, 4, 0, 1]	$-x$	-1	0.5623	0.8345
10	$-75x^2 + 36x + 26$	[1, 1, -1, 1]	$-1/3x^2 + \frac{10}{9}x - 5/9$	-1	0.1290	0.1743
11	$-11x^2 - 76x + 75$	[1, 1, 0, 1]	$-x$	-1	0.1160	0.2315
12	$86x^2 + 40x - 101$	[0, -1, -1, 1]	$x^2 - 1/3x - 1/3$	0	0.02906	0.05468
13	$34x^2 - 555x + 460$	[1, -1, 6, 1]	$3x - 2$	-1	0.5505	0.9307
14	$-561x^2 + 239x + 221$	[1, -6, -1, 1]	$-3/11x^2 + \frac{10}{11}x + 1/11$	-1	0.3813	0.5097
15	$52x^2 + 595x - 561$	[1, -1, 0, 1]	$x$	-1	0.3757	0.7125
16	$613x^2 + 356x - 782$	[0, -1, 1, 1]	$-x^2 + 1/3x + 1/3$	0	0.09200	0.1676
17	$1751x^2 - 1827x + 257$	[2, -3, 0, 1]	$-x^2 + 4/3x$	-2	0.2012	0.3900
18	$3047x^2 + 630x - 2889$	[1, 7, 1, 2]	$3/5x^2 - 7/5x + 6/5$	-1	0.2430	0.4718
19	$-5936x^2 + 3380x + 1593$	[1, -2, -1, 1]	$x^2 - 1/3x - 1/3$	-1	0.1307	0.1825
20	$7529x^2 - 9847x + 2849$	[1, -2, -2, 1]	$x^2 - 1/3x - 1/3$	-1	0.05101	0.08510
21	$37070x^2 - 13183x - 16889$	[1, -7, -1, 1]	$2 - 3x$	-1	0.4536	0.6052
22	$44599x^2 - 23030x - 14040$	[0, 1, 1, 1]	$-\frac{9}{11}x^2 - 3/11x + 3/11$	0	0.3898	0.5324
23	$23030x^2 + 36096x - 49279$	[1, -6, 2, 1]	$1/3 - x$	1	0.2582	0.4531
24	$67629x^2 + 13066x - 63319$	[0, 1, 1, 1]	$-\frac{9}{7}x^2 + 1/7$	0	0.4101	0.7849
25	$58639x^2 - 72309x + 18350$	[1, 1, -1, 1]	$-3/5x^2 + 2/5x - 1/5$	-1	0.1453	0.2502
26	$90659x^2 + 49162x - 112598$	[1, 1, 0, 1]	$x^2 - 4/3x + 1$	-1	0.2111	0.3883
27	$32020x^2 + 121471x - 130948$	[0, -1, 1, 1]	$-3/7x^2 - 5/7x + 2/7$	0	0.1909	0.3667
28	$122679x^2 + 170633x - 243546$	[0, -1, 2, 1]	$-6/5x^2 - 1/5x + 3/5$	0	0.3274	0.5711
29	$211526x^2 - 325332x + 122679$	[1, 4, -1, 1]	$x$	1	0.5116	0.8006
30	$366225x^2 - 33228x - 251815$	[1, 1, 1, 1]	$1/3x^2 - \frac{10}{9}x + 5/9$	1	0.1050	0.1554
31	$-88847x^2 + 495965x - 366225$	[1, -1, 0, 1]	$-x$	1	0.1686	0.2659
32	$277378x^2 + 462737x - 618040$	[0, 1, 1, 1]	$-x^2 + 1/3x + 1/3$	0	0.03712	0.06540
33	$2686254x^2 - 61963x - 2006251$	[1, 7, 1, 1]	$1 + x - 3x^2$	-1	0.2983	0.4648
34	$-3797087x^2 + 3396313x - 61963$	[1, 6, -2, 1]	$x^2 - 1/3x$	-1	0.2831	0.5098
35	$1852799x^2 + 3735124x - 4692505$	[1, 2, 1, 1]	$-3/7x^2 + x - 2/7$	-1	0.1130	0.2023
36	$10280428x^2 - 6854589x - 1882325$	[1, -2, 0, 1]	$-x^2 + 4/3x$	-1	0.2174	0.3213
37	$-927855x^2 - 18398772x + 16825732$	[1, -4, 1, 1]	$-3/5x^2 + 7/5x - 1/5$	-1	0.3940	0.7245
38	$-11208283x^2 - 11544183x + 18708057$	[0, -1, 1, 1]	$-x^2$	0	0.3125	0.5436
39	$-29916340x^2 + 5900119x + 17780202$	[1, -3, 1, 1]	$-x^2 + 1/3x + 1/3$	-1	0.1133	0.1577
40	$47696542x^2 - 41743193x - 26615$	[1, 1, -2, 1]	$x^2 - 1/3x - 1/3$	-1	0.04083	0.07211

41	$-172926121x^2 - 11986543x + 143142856$	$[1, 7, 1, 1]$	$3x - 2$	-1	0.3368	0.569
42	$220622663x^2 - 29756650x - 143169471$	$[0, 1, -1, 1]$	$\frac{9}{11}x^2 + 3/11x - 3/11$	0	0.3255	0.468
43	$29756650x^2 + 280332363x - 268345820$	$[1, -6, -2, 1]$	$1/3 - x$	1	0.2851	0.549
44	$-363792134x^2 + 298102470x + 17966507$	$[1, -1, 1, 1]$	$3/7x^2 - x + 2/7$	1	0.1255	0.210
45	$280135963x^2 + 530908076x - 679861111$	$[1, 2, 0, 1]$	$-x^2 + 4/3x - 1$	1	0.2626	0.467
46	$-83656171x^2 + 829010546x - 661894604$	$[0, 1, 1, 1]$	$-3/7x^2 - 5/7x + 2/7$	0	0.2611	0.430
47	$-1341755715x^2 + 643731697x + 465414812$	$[1, 3, -1, 1]$	$3/5x^2 - 7/5x + 1/5$	-1	0.3870	0.522
48	$196479792x^2 + 1359918622x - 1341755715$	$[1, 1, 0, 1]$	$x$	-1	0.3482	0.694
49	$-1425411886x^2 + 1472742243x - 196479792$	$[1, 1, 0, 1]$	$-x$	-1	0.3577	0.699
50	$-1538235507x^2 - 716186925x + 1807170527$	$[1, -1, 0, 1]$	$1/3x^2 - \frac{10}{9}x + 5/9$	-1	0.08719	0.164
51	$-1228932094x^2 + 2832660865x - 1538235507$	$[1, 1, 0, 1]$	$x$	-1	0.1876	0.278
52	$309303413x^2 + 3548847790x - 3345406034$	$[0, -1, 1, 1]$	$-x^2 + 1/3x + 1/3$	0	0.04175	0.079
53	$-10964128341x^2 - 6373227097x + 13991949404$	$[1, 7, -1, 1]$	$3x^2 - x - 1$	-1	0.2761	0.502
54	$-21301368298x^2 + 11379293411x + 6373227097$	$[1, 6, 2, 1]$	$-x^2 + 1/3x$	-1	0.3040	0.418
55	$936191797x^2 + 27674595395x - 24956077745$	$[1, -2, 1, 1]$	$-3/7x^2 + x - 2/7$	-1	0.1341	0.243
56	$-52630673140x^2 + 44059955120x + 1782325853$	$[1, 2, 1, 1]$	$x^2 - 4/3x + 1$	-1	0.2907	0.494
57	$-53566864937x^2 + 16385359725x + 26738403598$	$[0, -1, 1, 1]$	$-3/7x^2 - 5/7x + 2/7$	0	0.2013	0.270
58	$-25046135486x^2 - 99319088169x + 106197538077$	$[1, -4, 0, 1]$	$3/5x^2 - 7/5x + 6/5$	-1	0.3435	0.663
59	$-131243673563x^2 - 38873773324x + 134718267528$	$[1, 1, 1, 1]$	$-x^2 + 1/3x + 1/3$	-1	0.07838	0.159
60	$-265961941091x^2 + 137275989415x + 83779862500$	$[1, -2, 2, 1]$	$-x^2 + 1/3x + 1/3$	-1	0.04331	0.059
61	$-677789909336x^2 - 508711490852x + 965445548273$	$[1, 7, -1, 1]$	$2 - 3x$	-1	0.3581	0.634
62	$943751850427x^2 + 371435501437x - 1049225410773$	$[0, -1, -1, 1]$	$\frac{9}{11}x^2 + 3/11x - 3/11$	0	0.2511	0.485
63	$-371435501437x^2 + 1802205144870x - 1293493654018$	$[1, 6, -2, 1]$	$1/3 - x$	-1	0.4019	0.626
64	$-1992977261200x^2 + 922058152581x + 721177305028$	$[1, -1, 1, 1]$	$3/7x^2 - x + 2/7$	-1	0.1285	0.172
65	$200880847553x^2 + 3975845791177x - 3636212718809$	$[1, 2, 0, 1]$	$-x^2 + 4/3x - 1$	-1	0.3064	0.563
66	$-1792096413647x^2 + 4897903943758x - 2915035413781$	$[0, 1, 1, 1]$	$-3/7x^2 - 5/7x + 2/7$	0	0.3109	0.462
67	$-6551248132590x^2 + 592533811436x + 4506250979875$	$[1, 3, -1, 1]$	$3/5x^2 - 7/5x + 1/5$	1	0.3148	0.466
68	$-8343344546237x^2 + 5490437755194x + 1591215566094$	$[0, 1, 1, 1]$	$-x^2$	0	0.3916	0.575
69	$4960032566496x^2 + 8281215923499x - 11057499112465$	$[1, 1, -1, 1]$	$-1/3x^2 + \frac{10}{9}x - 5/9$	-1	0.1114	0.196
70	$-9934560112331x^2 + 14364187490129x - 4960032566496$	$[1, 1, 1, 1]$	$-x$	-1	0.1646	0.262
71	$-4974527545835x^2 + 22645403413628x - 16017531678961$	$[0, 1, 1, 1]$	$-x^2 + 1/3x + 1/3$	0	0.05800	0.089
72	$-72910737786719x^2 + 83394346772469x - 17111480720417$	$[1, -1, 6, 1]$	$2 - 3x$	1	0.4936	0.891
73	$33129012399378x^2 + 66842261199428x - 83953741919845$	$[1, 6, -1, 1]$	$-3/11x^2 + \frac{10}{11}x + 1/11$	1	0.3391	0.606
74	$106039750186097x^2 - 16552085573041x - 66842261199428$	$[0, -1, 1, 1]$	$-x^2 + 1/3x$	0	0.2570	0.365
75	$-44756252933176x^2 + 172882011385525x - 117082754319223$	$[1, 1, 1, 1]$	$3/7x^2 - x + 2/7$	1	0.1786	0.272
76	$245208512771572x^2 + 33738090053346x - 217638264318701$	$[1, 2, 0, 1]$	$-x^2 + 4/3x$	1	0.1439	0.260
77	$-535173278476320x^2 + 105405831278833x + 318193774318179$	$[0, 1, -2, 1]$	$6/5x^2 + 1/5x - 3/5$	0	0.3398	0.473
78	$-72985261546607x^2 + 674975959969059x - 535173278476320$	$[1, 4, 0, 1]$	$x$	-1	0.4734	0.776
79	$462188016929713x^2 + 569570128690226x - 853367052794499$	$[0, -1, 1, 1]$	$-x^2 + 1/3x + 1/3$	0	0.1073	0.186
80	$1315555069724212x^2 - 177073572504320x - 854025812955059$	$[1, -2, 0, 1]$	$-x^2 + 1/3x + 1/3$	-1	0.03616	0.052

Number:  $\xi = .7120\dots$  Equation:  $3x^3 - x^2 + 2x - 2 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.2050	0.4101
2	$-2x^2 + 1$	[1, 0, -2, 1]	$3/2x - 1$	-1	0.05580	0.06975
3	$-2x^2 - 7x + 6$	[3, 7, 6, 1]	$2 - 3x$	-3	0.09301	0.1689
4	$11x^2 + 2x - 7$	[1, -15, -1, 3]	$3/2x^2 - 1/2x$	-1	0.09289	0.1336
5	$24x^2 + 11x - 20$	[0, -1, 2, 1]	$-3/2x^2 - x + 1$	0	0.2089	0.3979
6	$19x^2 - 36x + 16$	[1, 6, 3, 1]	$x$	-1	0.3347	0.4941
7	$-5x^2 - 47x + 36$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.2307	0.3687
8	$59x^2 + 24x - 47$	[1, 2, 0, 1]	$3/2x^2 - 1/2x$	-1	0.1471	0.2647
9	$68x^2 - 106x + 41$	[1, 2, 1, 1]	$-3/4x^2 + x - 1/2$	-1	0.07985	0.1247
10	$-305x^2 - 214x + 307$	[2, -5, 0, 1]	$-3x^2 + 4x - 1$	-2	0.2191	0.5419
11	$386x^2 - 199x - 54$	[1, 6, -1, 2]	$3/8x^2 - 1/2x - 1/4$	-1	0.1441	0.1852
12	$467x^2 - 612x + 199$	[0, 1, 2, 1]	$-3/2x^2 + 1/2x$	0	0.1465	0.2473
13	$983x^2 + 536x - 880$	[1, -3, 0, 1]	$3/2x^2 - 2x + 1$	1	0.1271	0.2668
14	$1499x^2 + 1684x - 1959$	[0, -1, 2, 1]	$-3/2x^2 - x + 1/2$	0	0.4910	1.141
15	$2303x^2 - 887x - 536$	[1, 2, 1, 1]	$-3/8x^2 + 1/2x + 1/4$	1	0.2822	0.3394
16	$2482x^2 + 2220x - 2839$	[1, 1, 0, 1]	$1 - 3/2x$	1	0.02918	0.06932
17	$-13481x^2 + 3363x + 4440$	[2, -5, -2, 1]	$3x^2 - x$	2	0.5322	0.6230
18	$-15963x^2 + 1143x + 7279$	[0, -1, 1, 1]	$-3/4x^2 - 1/2x + 1/2$	0	0.1763	0.2138
19	$11785x^2 + 16778x - 17921$	[1, 14, 1, 2]	$x - 1$	1	0.06398	0.1477
20	$19392x^2 + 51477x - 46484$	[0, 1, 3, 1]	$-3/2x^2 - x + 1$	0	0.2494	0.4882
21	$-57941x^2 + 59412x - 12928$	[1, 5, 3, 1]	$-x$	-1	0.2366	0.4728
22	$89118x^2 + 8843x - 51477$	[1, 1, -1, 1]	$3/2x - 1/2$	-1	0.3024	0.4062
23	$-38549x^2 + 110889x - 59412$	[1, 1, 0, 1]	$-x$	-1	0.3333	0.4693
24	$50569x^2 + 119732x - 110889$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.1572	0.3200
25	$-185608x^2 + 161458x - 20863$	[1, -1, 1, 1]	$3/4x^2 - x + 1/2$	1	0.06353	0.1124
26	$361355x^2 + 658980x - 652406$	[2, 5, -1, 1]	$-3x^2 + 4x - 2$	2	0.5388	1.229
27	$669982x^2 - 14289x - 329490$	[1, -5, 1, 2]	$-3/4x^2 + 1/4x$	1	0.1126	0.1399
28	$-1164217x^2 + 849016x - 14289$	[1, 1, -2, 1]	$3/2x^2 - 1/2x$	1	0.1376	0.2107
29	$712849x^2 + 2299856x - 1998944$	[1, 4, 2, 1]	$-3/2x^2 + 2x - 1$	1	0.1806	0.3344
30	$3711265x^2 + 587535x - 2299856$	[1, -2, 1, 1]	$-3/2x^2 + 1/2x$	1	0.1902	0.2680
31	$-7161049x^2 + 4273658x + 587535$	[1, 2, -2, 1]	$3/2x^2 - 1/2x$	1	0.2864	0.3903
32	$974330x^2 + 7748584x - 6011121$	[1, 2, 1, 1]	$-3/4x^2 + x - 1/2$	1	0.05641	0.09124
33	$19982023x^2 + 7537387x - 15497168$	[1, -2, 2, 1]	$-3x^2 + x$	1	0.3034	0.5291
34	$20956353x^2 + 15285971x - 21508289$	[0, 1, 1, 1]	$-3/4x^2 - 1/2x + 1/2$	0	0.08305	0.2038
35	$-22271422x^2 + 35479191x - 13970902$	[1, 5, -1, 1]	$-x$	-1	0.1609	0.2493
36	$-1315069x^2 + 50765162x - 35479191$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.1332	0.1984
37	$103807435x^2 + 68681271x - 101530324$	[1, 4, 0, 1]	$-3x^2 + x$	1	0.4507	1.079
38	$-127393926x^2 + 17563082x + 52080231$	[1, 1, -1, 1]	$\frac{9}{8}x^2 + 1/4$	1	0.5568	0.6604
39	$-128708995x^2 + 68328244x + 16601040$	[1, 0, 1, 1]	$-x^2$	1	0.2881	0.3741
40	$102492366x^2 + 119446433x - 137009515$	[1, -1, 1, 1]	$3/2x - 1/2$	1	0.1855	0.4302

41	$-153610555x^2 + 205337759x - 68328244$	[1, 1, 1, 1]	$-x$	1	0.2966	0
42	$-51118189x^2 + 324784192x - 205337759$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.3001	0
43	$-333693727x^2 - 170564622x + 290620070$	[1, -2, 0, 1]	$3/4x^2 - x - 1/2$	-1	0.2635	0
44	$-384811916x^2 + 154219570x + 85282311$	[0, 1, 1, 1]	$-3/4x^2 + 1/4x$	0	0.07087	0
45	$847470626x^2 + 717031625x - 940188454$	[1, 0, -3, 1]	$3x - 2$	1	0.05756	0
46	$-2257753307x^2 + 600533228x + 717031625$	[1, 5, 0, 1]	$3/2x^2 - 1/2x$	1	0.1343	0
47	$5362977240x^2 - 484034831x - 2374251704$	[0, 1, -2, 1]	$3/2x^2 + x - 1$	0	0.3579	0
48	$-4059352991x^2 - 5465535033x + 5949569864$	[1, -7, -1, 1]	$x - 1$	-1	0.1268	0
49	$-12983707787x^2 + 1568602890x + 5465535033$	[1, -2, 0, 1]	$-3/2x^2 + 1/2x$	-1	0.2443	0
50	$6168626054x^2 - 18449242820x + 10008922855$	[1, 3, -1, 1]	$3/4x^2 - x + 1/2$	-1	0.08298	0
51	$-17689516457x^2 - 39226814893x + 36898485640$	[1, 2, 2, 1]	$-3x^2 + x$	-1	0.3035	0
52	$-11520890403x^2 - 57676057713x + 46907408495$	[0, 1, 1, 1]	$-3/4x^2 - 1/2x + 1/2$	0	0.1550	0
53	$-61516354514x^2 + 54588002097x - 7680593602$	[1, -5, 1, 1]	$x$	1	0.1255	0
54	$-49995464111x^2 + 112264059810x - 54588002097$	[0, -1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.1691	0
55	$-175284896694x^2 - 103078983838x + 162259523921$	[1, 3, 2, 1]	$3/2x^2 - 2x$	1	0.2735	0
56	$225280360805x^2 - 9185075972x - 107671521824$	[0, -1, -1, 1]	$x^2$	0	0.2291	0
57	$13777613958x^2 + 38219510555x - 279116121717$	[1, 2, -1, 1]	$1/2 - 3/2x$	1	0.3745	0
58	$-386787643541x^2 + 288301197689x - 9185075972$	[1, -1, 1, 1]	$-x$	1	0.2731	0
59	$625845618304x^2 + 84708831894x - 377602567569$	[1, 1, -1, 1]	$3/2x - 1$	1	0.04865	0
60	$-2384498939315x^2 + 1459876140389x + 169417663788$	[2, 3, -2, 1]	$3x^2 - x$	2	0.5712	0
61	$-371719122622x^2 - 2553916603103x + 2006896371746$	[1, -12, -3, 2]	$3/4x^2 - x + 1/2$	1	0.1102	0
62	$3382063680241x^2 + 1178749294608x - 2553916603103$	[1, -1, -1, 1]	$3/2x^2 - 1/2x$	1	0.07818	0
63	$7135846483104x^2 + 4911415192319x - 7114729577952$	[0, -1, 2, 1]	$-3/2x^2 - x + 1$	0	0.1644	0
64	$-7290030686687x^2 + 11871960566688x - 4757230988736$	[1, -5, -2, 1]	$-x$	1	0.3241	0
65	$-154184203583x^2 + 16783375759007x - 11871960566688$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.2620	0
66	$17653756646449x^2 + 11001579679246x - 16783375759007$	[1, 2, 0, 1]	$-3/2x^2 + 1/2x$	-1	0.1172	0
67	$-25252155740302x^2 + 34437132405456x - 11717776363105$	[1, 2, -1, 1]	$3/4x^2 - x + 1/2$	-1	0.07503	0
68	$87960414825079x^2 + 88574649914244x - 107660799928411$	[2, 5, 0, 1]	$-3x^2 + 4x - 1$	-2	0.2399	0
69	$128563552956670x^2 - 53523282419623x - 27068758754394$	[1, -6, 1, 2]	$-3/8x^2 + 1/2x + 1/4$	-1	0.1423	0
70	$-169166691088261x^2 + 195621214753490x - 53523282419623$	[0, 1, -2, 1]	$3/2x^2 - 1/2x$	0	0.1332	0
71	$-289133400215539x^2 - 231286817337276x + 311264623422128$	[1, -3, 0, 1]	$3/2x^2 - 2x + 1$	1	0.1135	0
72	$-409100109342817x^2 - 658194849428042x + 676052529263879$	[0, -1, 2, 1]	$-3/2x^2 - x + 1/2$	0	0.5206	0
73	$756030335348731x^2 - 213478894589327x - 231286817337276$	[1, -2, -1, 1]	$3/8x^2 - 1/2x - 1/4$	1	0.2708	0
74	$-698233509558356x^2 - 889481666765318x + 987317152686007$	[1, 1, 0, 1]	$3/2x - 1$	1	0.03142	0
75	$4358418477174733x^2 - 604820838272083x - 1778963333530636$	[2, 5, -2, 1]	$3x^2 - x$	2	0.4952	0
76	$5056651986733089x^2 + 284660828493235x - 2766280486216643$	[0, -1, 1, 1]	$-3/4x^2 - 1/2x + 1/2$	0	0.1575	0
77	$-1970211490737598x^2 + 6137381810705369x - 3371101324488726$	[1, -12, -3, 2]	$-x$	1	0.1652	0
78	$3086440495995491x^2 + 6422042639198604x - 6137381810705369$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.07315	0
79	$4202669501253384x^2 + 18981467089102577x - 15645864945899464$	[0, 2, 3, 1]	$-3/2x^2 - x + 1$	0	0.3019	0
80	$20382356922853705x^2 - 18447644613401720x + 2801779667502256$	[1, 2, -3, 1]	$x$	1	0.2479	0

Number:  $\xi = .4599\dots$  Equation:  $3x^3 - x^2 + 2x - 1 = 0$ . “All” optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$-3x^2 + x$	0	0.1477	0.1846
2	$-3x^2 - 3x + 2$	$[2, -3, -3, 1]$	$3x - 1$	-2	0.1261	0.3083
3	$4x^2 - 4x + 1$	$[1, 5, 1, 2]$	$-x$	-1	0.1031	0.2126
4	$5x^2 - 11x + 4$	$[0, 1, 2, 1]$	$-3x^2 + x$	0	0.1361	0.1822
5	$2x^2 + 23x - 11$	$[1, -4, -3, 1]$	$3x^2 - x$	1	0.1039	0.1284
6	$37x^2 + 33x - 23$	$[1, 5, 4, 1]$	$-3x^2 + x$	1	0.04692	0.1024
7	$143x^2 + 6x - 33$	$[1, -5, 4, 1]$	$-3x^2 + x$	1	0.1223	0.1291
8	$367x^2 + 227x - 182$	$[1, 6, 1, 1]$	$-3x^2 - 2x + 1$	1	0.4466	0.7272
9	$385x^2 - 164x - 6$	$[1, 5, -1, 1]$	$-3/7x^2 + 4/7x + 1/7$	1	0.1548	0.1829
10	$492x^2 + 624x - 391$	$[1, 2, -1, 1]$	$1 - 3x$	1	0.1544	0.3109
11	$-788x^2 + 719x - 164$	$[1, -3, 0, 1]$	$-x$	1	0.1132	0.2124
12	$1861x^2 + 1708x - 1179$	$[1, 3, 0, 1]$	$-3x^2 + 4x - 2$	1	0.5019	1.126
13	$-1084x^2 + 2062x - 719$	$[1, 2, 0, 1]$	$3/11x^2 - \frac{7}{11}x + \frac{5}{11}$	1	0.1353	0.1892
14	$-11x^2 + 4489x - 2062$	$[1, 1, 1, 1]$	$-3x^2 + x$	1	0.1119	0.1356
15	$6164x^2 + 6927x - 4489$	$[1, -4, 3, 1]$	$-3x^2 + x$	1	0.04653	0.1029
16	$-25795x^2 - 3201x + 6927$	$[1, 5, -4, 1]$	$3x^2 - x$	1	0.1126	0.1225
17	$62768x^2 + 49252x - 35923$	$[1, 6, -1, 1]$	$3x^2 + 2x - 1$	1	0.3696	0.7181
18	$72371x^2 - 26320x - 3201$	$[1, -5, -1, 1]$	$-3/7x^2 + 4/7x + 1/7$	1	0.1548	0.1755
19	$-78960x^2 - 128025x + 75572$	$[1, -2, 1, 1]$	$3x - 1$	1	0.1838	0.3178
20	$-154345x^2 + 128212x - 26320$	$[1, -3, 0, 1]$	$x$	1	0.1229	0.2112
21	$309251x^2 + 357755x - 229917$	$[1, -3, 0, 1]$	$-3x^2 + 4x - 2$	1	0.5248	1.134
22	$229730x^2 - 384449x + 128212$	$[1, -2, 0, 1]$	$-3/11x^2 + \frac{7}{11}x - \frac{5}{11}$	1	0.1331	0.1954
23	$-74824x^2 + 870416x - 384449$	$[1, 1, -1, 1]$	$3x^2 - x$	1	0.1191	0.1432
24	$1003699x^2 + 1431207x - 870416$	$[1, 4, 3, 1]$	$-3x^2 + x$	1	0.05620	0.1046
25	$4618646x^2 + 988299x - 1431207$	$[1, -5, 4, 1]$	$-3x^2 + x$	1	0.1022	0.1166
26	$10566016x^2 + 10445957x - 7038152$	$[1, 6, 1, 1]$	$-3x^2 - 2x + 1$	1	0.2963	0.7173
27	$13530913x^2 - 4073255x - 988299$	$[1, 5, -1, 1]$	$-3/7x^2 + 4/7x + 1/7$	1	0.1531	0.1677
28	$25750678x^2 + 21880213x - 15507511$	$[1, 2, 0, 1]$	$2 - 3x$	1	0.3439	0.7169
29	$12219765x^2 + 25953468x - 14519212$	$[0, -1, 1, 1]$	$-\frac{9}{7}x^2 - 3/7x - 1/7$	0	0.2137	0.3280
30	$-30026723x^2 + 22665722x - 4073255$	$[1, -3, 0, 1]$	$-x$	1	0.1316	0.2090
31	$67997166x^2 + 25167959x - 25953468$	$[1, 1, -1, 1]$	$3x - 1$	1	0.2561	0.3285
32	$-47833681x^2 + 71284912x - 22665722$	$[1, 2, 0, 1]$	$-x$	1	0.1294	0.2008
33	$-27670196x^2 + 167737783x - 71284912$	$[0, 1, 2, 1]$	$-3x^2 + x$	0	0.1251	0.1511
34	$-158514344x^2 - 291860850x + 167737783$	$[1, -4, -3, 1]$	$3x^2 - x$	-1	0.06612	0.1075
35	$-820242037x^2 - 257469573x + 291860850$	$[1, 5, 4, 1]$	$-3x^2 + x$	-1	0.09115	0.1117
36	$1743657905x^2 + 2176372456x - 1369572460$	$[1, -6, -1, 1]$	$3x^2 + 2x - 1$	-1	0.3556	0.7247
37	$-2516066624x^2 + 597163741x + 257469573$	$[1, 5, 1, 1]$	$3/7x^2 - 4/7x - 1/7$	-1	0.1497	0.1597
38	$-4307557847x^2 - 4610214485x + 3031005770$	$[1, -2, 0, 1]$	$2 - 3x$	-1	0.3119	0.7189
39	$-1791491223x^2 - 5207378226x + 2773536197$	$[0, -1, 1, 1]$	$-\frac{9}{7}x^2 - 3/7x - 1/7$	0	0.2434	0.3413
40	$-5804541967x^2 + 3967863679x - 597163741$	$[1, 3, 0, 1]$	$x$	-1	0.1391	0.2056

41	$-11903591037x^2 - 5849729032x + 5207378226$	$[1, 1, 1, 1]$	$1 - 3x$	-1	0.0
42	$9817592711x^2 - 13143105584x + 3967863679$	$[1, -2, 0, 1]$	$-x$	-1	0.0
43	$-31697722367x^2 - 26724429001x + 18992834616$	$[1, 3, 1, 1]$	$-3x^2 + 4x - 1$	-1	0.0
44	$7731594385x^2 - 32135940200x + 13143105584$	$[1, 2, 0, 1]$	$-x^2 - 2/3x - 1/3$	-1	0.0
45	$-23966127982x^2 - 58860369201x + 32135940200$	$[0, 1, 1, 1]$	$-3x^2 + x$	0	0.0
46	$144340076564x^2 + 61618670220x - 58860369201$	$[1, -4, 1, 1]$	$3x^2 - x$	1	0.0
47	$-280405250071x^2 - 446916825626x + 264819115985$	$[1, 6, -1, 1]$	$3x^2 + 2x - 1$	1	0.0
48	$-465261260731x^2 + 79963105325x + 61618670220$	$[1, -5, -1, 1]$	$-3/7x^2 + 4/7x + 1/7$	1	0.0
49	$705150576706x^2 + 955452321472x - 588498601171$	$[1, -2, 0, 1]$	$3x - 2$	1	0.0
50	$239889315975x^2 + 1035415426797x - 526879930951$	$[0, 1, 1, 1]$	$-\frac{9}{7}x^2 - 3/7x - 1/7$	0	0.0
51	$1115378532122x^2 - 686806141601x + 79963105325$	$[1, -3, 0, 1]$	$x$	-1	0.0
52	$2060418424803x^2 + 1304061606668x - 1035415426797$	$[1, 1, 1, 1]$	$1 - 3x$	-1	0.0
53	$-1990867748269x^2 + 2409027709999x - 686806141601$	$[1, -2, 0, 1]$	$-x$	-1	0.0
54	$5305766058262x^2 + 5634406388402x - 3713089316667$	$[1, 3, 1, 1]$	$-3x^2 + 4x - 1$	-1	0.0
55	$-1921317071735x^2 + 6122117026666x - 2409027709999$	$[1, 2, 0, 1]$	$-x^2 - 2/3x - 1/3$	-1	0.0
56	$3384448986527x^2 + 11756523415068x - 6122117026666$	$[0, 1, 1, 1]$	$-3x^2 + x$	0	0.0
57	$-25135249053052x^2 - 14006480816943x + 11756523415068$	$[1, -4, 1, 1]$	$3x^2 - x$	1	0.0
58	$-85540068351308x^2 + 8878810834234x + 14006480816943$	$[1, 5, 4, 1]$	$-3x^2 + x$	1	0.0
59	$112176500854010x^2 + 195341957484977x - 113553029985194$	$[2, -11, 2, 1]$	$3x - 2$	2	0.0
60	$26636432502702x^2 + 204220768319211x - 99546549168251$	$[0, 1, 1, 1]$	$-\frac{9}{7}x^2 - 3/7x - 1/7$	0	0.0
61	$-213099579153445x^2 + 117304170836719x - 8878810834234$	$[1, 6, 1, 2]$	$-x$	-1	0.0
62	$351912512510157x^2 + 282258554967469x - 204220768319211$	$[1, 1, -1, 1]$	$3x - 1$	-1	0.0
63	$-399562725804188x^2 + 438829109992649x - 117304170836719$	$[1, 2, 0, 1]$	$-x$	-1	0.0
64	$-447212939098219x^2 + 1159916774952767x - 438829109992649$	$[0, 1, 2, 1]$	$-3x^2 + x$	0	0.0
65	$-422061451781509x^2 - 2328217379011104x + 1159916774952767$	$[1, -4, -3, 1]$	$3x^2 - x$	1	0.0
66	$-4323873228421319x^2 - 3074456531287932x + 2328217379011104$	$[1, 5, 4, 1]$	$-3x^2 + x$	1	0.0
67	$-15632398593875950x^2 + 503177544856559x + 3074456531287932$	$[1, -5, 4, 1]$	$-3x^2 + x$	1	0.0
68	$-17141931228445627x^2 - 39481811691902578x + 21781311656451814$	$[2, 11, -2, 1]$	$2 - 3x$	2	0.0
69	$-1509532634569677x^2 - 39984989236759137x + 18706855125163882$	$[0, -1, 1, 1]$	$-\frac{9}{7}x^2 - 3/7x - 1/7$	0	0.0
70	$-40488166781615696x^2 + 19713210214877000x - 503177544856559$	$[1, 6, -1, 2]$	$x$	1	0.0
71	$-59139630644631000x^2 - 59753590713784715x + 39984989236759137$	$[1, 1, 1, 1]$	$1 - 3x$	1	0.0
72	$79466800928661715x^2 - 79411409666513137x + 19713210214877000$	$[1, -2, 0, 1]$	$-x$	1	0.0
73	$-217907058715508696x^2 - 159547561926477145x + 119451790165420852$	$[1, 3, 0, 1]$	$-3x^2 + 4x - 2$	1	0.0
74	$99793971212692430x^2 - 218576410046810989x + 79411409666513137$	$[1, 2, 0, 1]$	$3/11x^2 - \frac{7}{11}x + \frac{5}{11}$	1	0.0
75	$-38646286574154551x^2 - 457535381639801271x + 218576410046810989$	$[1, 1, 1, 1]$	$-3x^2 + x$	1	0.0
76	$-733021803288742069x^2 - 657848066658637002x + 457535381639801271$	$[1, -4, 3, 1]$	$-3x^2 + x$	1	0.0
77	$2838649751496887951x^2 + 125138948388730664x - 657848066658637002$	$[1, 5, -4, 1]$	$3x^2 - x$	1	0.0
78	$-7275426857803494916x^2 - 4529762729980353947x + 3621636766544255617$	$[1, 6, -1, 1]$	$3x^2 + 2x - 1$	1	0.0
79	$-7650843702969686908x^2 + 3246219921378063625x + 125138948388730664$	$[1, -5, -1, 1]$	$-3/7x^2 + 4/7x + 1/7$	1	0.0
80	$9738659764134190875x^2 + 12430884329727502183x - 7775982651358417572$	$[1, -2, 1, 1]$	$3x - 1$	1	0.0

Number:  $\xi = .7571\dots$  Equation:  $3x^3 - x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 + 1/3x$	0	0.1839	0.3678
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 + 1/3x$	-1	0.2360	0.3540
3	$3x^2 - x - 1$	[1, 3, -1, 1]	$1/2 - 3/2x$	-1	0.3375	0.4125
4	$-3x^2 - 3x + 4$	[1, 2, -2, 1]	$x - 1$	-1	0.1458	0.3097
5	$4x^2 - 7x + 3$	[1, 2, 1, 1]	$-x$	-1	0.3380	0.5104
6	$x^2 - 10x + 7$	[0, 1, 1, 1]	$-x^2 + 1/3x$	0	0.2213	0.3319
7	$-9x^2 - 13x + 15$	[1, 4, 0, 1]	$-3/2x^2 + 1/2x$	1	0.2396	0.5058
8	$24x^2 - x - 13$	[1, 2, -2, 1]	$x^2 - 1/3x$	1	0.1968	0.2549
9	$-17x^2 - 36x + 37$	[1, 2, 0, 1]	$x - 1$	1	0.1136	0.2451
10	$-81x^2 - 10x + 54$	[1, -3, 0, 1]	$-3/2x^2 + 1/2x$	1	0.2620	0.3825
11	$135x^2 - 89x - 10$	[1, 3, -2, 1]	$x^2 - 1/3x$	1	0.2335	0.3363
12	$-44x^2 - 145x + 135$	[1, 2, 1, 1]	$x$	1	0.2040	0.3995
13	$-179x^2 - 56x + 145$	[0, -1, 1, 1]	$-x^2 + 1/3x$	0	0.09972	0.1749
14	$-486x^2 + 257x + 84$	[1, -3, 0, 1]	$-3/2x^2 + 1/2x$	1	0.3538	0.4633
15	$-95x^2 - 570x + 486$	[1, 3, -1, 1]	$-x$	1	0.3684	0.6465
16	$-581x^2 - 313x + 570$	[0, 1, 1, 1]	$-x^2 + 1/3x$	0	0.1228	0.2767
17	$-1151x^2 + 458x + 313$	[1, 2, 0, 1]	$-x^2 + 1/3x$	-1	0.1546	0.1906
18	$-687x^2 - 1967x + 1883$	[1, 3, -1, 1]	$1/2 - 3/2x$	-1	0.2871	0.5852
19	$-1838x^2 - 1509x + 2196$	[0, 1, 1, 1]	$-x^2$	0	0.2051	0.4456
20	$-4034x^2 + 1061x + 1509$	[1, 3, 0, 1]	$-x^2 + 1/3x$	1	0.2220	0.2685
21	$5543x^2 - 5598x + 1061$	[1, 1, -2, 1]	$x^2 - 1/3x$	1	0.1372	0.2766
22	$-8397x^2 - 3924x + 7784$	[1, 3, 1, 1]	$3/2x - 1/2$	1	0.1962	0.4077
23	$-13940x^2 + 1674x + 6723$	[0, -1, 1, 1]	$-x^2$	0	0.3099	0.3865
24	$1674x^2 + 20105x - 16181$	[1, -2, -2, 1]	$x - 1/3$	1	0.2732	0.4521
25	$-20663x^2 + 17855x - 1674$	[1, 1, 1, 1]	$-x$	1	0.2185	0.3831
26	$-36277x^2 - 576x + 21230$	[1, -1, 1, 1]	$-1/2x^2 - 4/3x + 1/2$	1	0.5361	0.7199
27	$37951x^2 + 20681x - 37411$	[1, 0, -1, 1]	$\frac{12}{17}x^2 + \frac{11}{17}x - \frac{4}{17}$	1	0.3868	0.8775
28	$-18989x^2 + 37960x - 17855$	[1, 1, 1, 1]	$\frac{9}{19}x^2 - \frac{6}{19}x + \frac{11}{19}$	1	0.2366	0.3481
29	$-56940x^2 + 17279x + 19556$	[0, -1, 1, 1]	$1/2 - 3/2x$	0	0.3384	0.4094
30	$-75929x^2 + 55239x + 1701$	[0, -1, 2, 1]	$-x^2$	0	0.3449	0.5276
31	$-55239x^2 - 59217x + 76496$	[1, -1, -1, 1]	$1/3 - x$	-1	0.1483	0.3146
32	$-77630x^2 + 131735x - 55239$	[1, 1, -1, 1]	$x$	-1	0.3331	0.5073
33	$-186407x^2 - 63195x + 154693$	[1, 2, 0, 1]	$1/2x^2 - 5/3x + 1/2$	-1	0.3169	0.5716
34	$22391x^2 - 190952x + 131735$	[1, -1, 0, 1]	$-3/13x^2 - \frac{8}{13}x - 1/13$	-1	0.2245	0.3345
35	$-164016x^2 - 254147x + 286428$	[0, 1, 1, 1]	$-3/2x^2 + 1/2x$	0	0.2431	0.5142
36	$-450444x^2 + 5345x + 254147$	[1, 2, 0, 1]	$-x^2 + 1/3x$	1	0.1929	0.2543
37	$-305641x^2 - 699246x + 704591$	[1, 2, 0, 1]	$1 - x$	1	0.1146	0.2491
38	$-1515348x^2 - 238112x + 1048869$	[1, 3, 0, 1]	$-3/2x^2 + 1/2x$	1	0.2552	0.3838
39	$-2564217x^2 + 1626859x + 238112$	[1, -3, 2, 1]	$-x^2 + 1/3x$	1	0.2344	0.3308
40	$-772120x^2 - 2802329x + 2564217$	[1, 2, -1, 1]	$-x$	1	0.2120	0.4056



41	$-3336337x^2 - 1175470x + 2802329$	$[0, 1, 1, 1]$	$-x^2 + 1/3x$	0	0.09640	0.1764
42	$-9207999x^2 + 4642465x + 1763205$	$[1, 3, 0, 1]$	$-3/2x^2 + 1/2x$	-1	0.3534	0.4562
43	$-10781131x^2 - 6328739x + 10971204$	$[1, 3, 0, 1]$	$1 - x$	-1	0.1219	0.2801
44	$-21752335x^2 + 8109460x + 6328739$	$[1, 2, 0, 1]$	$-x^2 + 1/3x$	-1	0.1537	0.1881
45	$12164190x^2 + 38066881x - 35792872$	$[1, -4, 1, 1]$	$3/2x - 1/2$	-1	0.2992	0.5942
46	$33916525x^2 + 29957421x - 42121611$	$[0, -1, 1, 1]$	$-x^2$	0	0.2100	0.4523
47	$-76038136x^2 + 17999641x + 29957421$	$[1, 3, 0, 1]$	$x^2 - 1/3x$	-1	0.2195	0.2659
48	$-105995557x^2 + 104023584x - 17999641$	$[1, 1, 2, 1]$	$-x^2 + 1/3x$	-1	0.1369	0.2726
49	$156035376x^2 + 79982082x - 149993515$	$[1, -3, 1, 1]$	$3/2x - 1/2$	-1	0.1885	0.4123
50	$262030933x^2 - 24041502x - 131993874$	$[0, -1, 1, 1]$	$-x^2$	0	0.3047	0.3846
51	$24041502x^2 + 386010973x - 306028891$	$[1, 2, 2, 1]$	$1/3 - x$	-1	0.2803	0.4575
52	$394024807x^2 - 330070393x + 24041502$	$[1, 1, -1, 1]$	$x$	-1	0.2211	0.3770
53	$680097242x^2 + 31899078x - 413981263$	$[1, 1, 1, 1]$	$-1/2x^2 - 4/3x + 1/2$	-1	0.5243	0.7197
54	$-369983305x^2 + 716081366x - 330070393$	$[1, -1, 0, 1]$	$\frac{3}{17}x^2 - \frac{10}{17}x - 1/17$	-1	0.2343	0.3466
55	$1074122049x^2 - 298171315x - 389939761$	$[1, 1, 0, 1]$	$3/2x - 1/2$	-1	0.3350	0.4050
56	$1444105354x^2 - 1014252681x - 59869368$	$[0, -1, 1, 1]$	$-x^2$	0	0.3471	0.5190
57	$1014252681x^2 + 1165890495x - 1464061810$	$[1, 2, 1, 1]$	$1/3 - x$	-1	0.1512	0.3196
58	$1503974722x^2 - 2478314491x + 1014252681$	$[1, 1, -1, 1]$	$x$	-1	0.3280	0.5038
59	$3472610716x^2 + 1317528309x - 2987992988$	$[1, 2, 0, 1]$	$1/2x^2 - 5/3x + 1/2$	-1	0.3061	0.5767
60	$-489722041x^2 + 3644204986x - 2478314491$	$[1, -1, 0, 1]$	$-3/13x^2 - \frac{8}{13}x - 1/13$	-1	0.2275	0.3369
61	$2982888675x^2 + 4961733295x - 5466307479$	$[0, 1, 1, 1]$	$-3/2x^2 + 1/2x$	0	0.2464	0.5228
62	$8449196154x^2 + 156742127x - 4961733295$	$[1, 2, 0, 1]$	$-x^2 + 1/3x$	1	0.1889	0.2541
63	$-2973140845x^2 + 13410929449x - 8449196154$	$[1, 2, -1, 1]$	$-x$	1	0.3602	0.5209
64	$5476055309x^2 + 13567671576x - 13410929449$	$[0, 1, 1, 1]$	$-x^2 + 1/3x$	0	0.1183	0.2531
65	$28330477137x^2 + 5431959676x - 20351507364$	$[1, 3, 0, 1]$	$-3/2x^2 + 1/2x$	-1	0.2482	0.3854
66	$-48681984501x^2 + 29682353249x + 5431959676$	$[1, 2, -2, 1]$	$x^2 - 1/3x$	-1	0.2351	0.3255
67	$13455025082x^2 + 54113944177x - 48681984501$	$[1, 2, 1, 1]$	$x$	-1	0.2200	0.4116
68	$62137009583x^2 + 24431590928x - 54113944177$	$[0, -1, 1, 1]$	$-x^2 + 1/3x$	0	0.09305	0.1780
69	$174376430640x^2 - 83615100071x - 36647386392$	$[1, -3, 0, 1]$	$-3/2x^2 + 1/2x$	-1	0.3527	0.4493
70	$199866053831x^2 + 127408716961x - 211023817032$	$[1, 3, 0, 1]$	$1 - x$	-1	0.1255	0.2837
71	$410889870863x^2 - 142798609214x - 127408716961$	$[1, 2, 0, 1]$	$-x^2 + 1/3x$	-1	0.1526	0.1857
72	$-214197913821x^2 - 736048577129x + 680039164775$	$[1, -4, 1, 1]$	$3/2x - 1/2$	-1	0.3113	0.6033
73	$-625087784684x^2 - 593249967915x + 807447881736$	$[0, -1, 1, 1]$	$-x^2$	0	0.2147	0.4593
74	$1432535666420x^2 - 300987110681x - 593249967915$	$[1, 3, 0, 1]$	$x^2 - 1/3x$	-1	0.2168	0.2636
75	$2025785634335x^2 - 1931272766406x + 300987110681$	$[1, 1, 2, 1]$	$-x^2 + 1/3x$	-1	0.1391	0.2686
76	$-2896909149609x^2 - 1621561402278x + 2888184896162$	$[1, -3, 1, 1]$	$3/2x - 1/2$	-1	0.1808	0.4172
77	$-4922694783944x^2 + 309711364128x + 2587197785481$	$[0, -1, 1, 1]$	$-x^2$	0	0.2993	0.3831
78	$-309711364128x^2 - 7406655448049x + 5785094045771$	$[1, 2, 2, 1]$	$1/3 - x$	-1	0.2871	0.4628
79	$-7509892569425x^2 + 6094805409899x - 309711364128$	$[1, 1, -1, 1]$	$x$	-1	0.2235	0.3710
80	$-12742298717497x^2 - 1002138674022x + 8062580467124$	$[1, 1, 1, 1]$	$-1/2x^2 - 4/3x + 1/2$	-1	0.5122	0.7204

Number:  $\xi = .5823\dots$  Equation:  $3x^3 - x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3/4x^2 + 5/4x - 3/4$	-1	0.07869	0.2361
2	$-3x^2 + 1$	$[1, -2, 1, 1]$	$-3/2x^2 + 1/2x$	-1	0.1540	0.1711
3	$2x^2 + 4x - 3$	$[1, -4, 1, 1]$	$x - 1$	-1	0.1144	0.2073
4	$-x^2 - 8x + 5$	$[0, -1, -2, 1]$	$x^2 + 2/3x - 1/3$	0	0.1802	0.2534
5	$-13x^2 + 11x - 2$	$[1, 6, 3, 1]$	$-x^2 + 4/3x - 4/3$	-1	0.4263	0.7416
6	$-14x^2 + 3x + 3$	$[0, 1, 1, 1]$	$-3/8x^2 - 5/8x + 3/8$	0	0.05738	0.06265
7	$23x^2 + 45x - 34$	$[2, -6, -1, 1]$	$3x - 2$	2	0.1501	0.2750
8	$-74x^2 - 5x + 28$	$[1, 8, -1, 2]$	$3/2x^2 - 1/2x + 1/2$	1	0.2912	0.3342
9	$-97x^2 - 50x + 62$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 1/3$	0	0.1971	0.3300
10	$-19x^2 + 133x - 71$	$[1, 3, 1, 1]$	$1/2x^2 + 5/6x + 1/6$	1	0.3043	0.3973
11	$78x^2 + 183x - 133$	$[0, -1, 1, 1]$	$-3/2x^2 + 1/2x$	0	0.1253	0.2142
12	$-209x^2 + 211x - 52$	$[1, 1, 2, 1]$	$-x$	1	0.09697	0.1980
13	$-131x^2 + 394x - 185$	$[0, 1, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	0	0.2426	0.3229
14	$-340x^2 + 605x - 237$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 1/3$	0	0.2253	0.3310
15	$502x^2 + 654x - 551$	$[1, 4, -1, 1]$	$-x^2 + 4/3x - 1/3$	1	0.02737	0.06293
16	$-3159x^2 - 407x + 1308$	$[1, 3, -4, 1]$	$3x^2 - x$	1	0.2777	0.3300
17	$1460x^2 - 4467x + 2106$	$[1, -9, -2, 1]$	$-x$	1	0.3234	0.4298
18	$-1699x^2 - 4874x + 3414$	$[0, 1, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	0	0.2762	0.4452
19	$6820x^2 + 1468x - 3167$	$[1, -2, 0, 1]$	$3/2x^2 - 1/2x + 1/2$	-1	0.3879	0.4896
20	$6581x^2 - 7873x + 2353$	$[1, 1, 1, 1]$	$-1/3x^2 + 7/9x + 1/9$	-1	0.2331	0.4169
21	$-8519x^2 - 6342x + 6581$	$[1, -1, 0, 1]$	$3/2x$	-1	0.2384	0.5128
22	$-15100x^2 + 1531x + 4228$	$[0, -1, 1, 1]$	$-x^2 + 1/3x$	0	0.1086	0.1182
23	$-21442x^2 + 18745x - 3645$	$[1, -3, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	-1	0.1571	0.2816
24	$-36542x^2 + 20276x + 583$	$[0, 1, 1, 1]$	$-x^2 - 2/3x + 1/3$	0	0.1797	0.2350
25	$-19693x^2 - 54922x + 38656$	$[1, 5, -3, 1]$	$x^2 - 4/3x + 4/3$	1	0.3637	0.5906
26	$16849x^2 - 75198x + 38073$	$[0, -1, 1, 1]$	$-3/8x^2 - 5/8x + 3/8$	0	0.07912	0.1034
27	$-63672x^2 - 221219x + 150396$	$[1, -1, 4, 1]$	$-3x^2 + x$	1	0.2978	0.4601
28	$242443x^2 - 214068x + 42448$	$[1, 8, -2, 1]$	$-x$	1	0.2082	0.3770
29	$-352938x^2 - 303568x + 296417$	$[1, 2, -1, 1]$	$-3/4x^2 + 7/4x - 5/4$	1	0.2142	0.5237
30	$531709x^2 - 131719x - 103573$	$[1, 1, -1, 1]$	$x^2 - 1/3x + 1/3$	1	0.2325	0.2556
31	$-463433x^2 - 821204x + 635282$	$[1, 2, 0, 1]$	$3/2x - 1$	1	0.07021	0.1346
32	$-1416356x^2 - 40130x + 503563$	$[1, -2, 0, 1]$	$-3/2x^2 + 1/2x - 1/2$	1	0.1498	0.1689
33	$1879789x^2 + 861334x - 1138845$	$[0, -1, -1, 1]$	$x^2 + 2/3x - 1/3$	0	0.1040	0.1639
34	$3879968x^2 - 4077219x + 1058585$	$[1, 5, -4, 1]$	$-x^2 + 4/3x - 1/3$	1	0.05085	0.1003
35	$-12231657x^2 - 4386930x + 6701351$	$[2, -5, 0, 1]$	$3x - 1$	2	0.3418	0.4884
36	$-16111625x^2 - 309711x + 5642766$	$[0, -1, 1, 1]$	$-x^2$	0	0.2011	0.2258
37	$19879133x^2 + 23629649x - 20498555$	$[1, -6, -5, 2]$	$3/4x^2 + 5/4x - 3/4$	1	0.1004	0.2470
38	$-60566532x^2 - 5316063x + 23629649$	$[1, 3, 0, 1]$	$3/2x^2 - 1/2x$	1	0.1434	0.1663
39	$25504907x^2 - 84196181x + 40377688$	$[1, -4, -2, 1]$	$-x$	1	0.1613	0.2133
40	$-35061625x^2 - 89512244x + 64007337$	$[0, 1, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	0	0.1308	0.2178

41	$-9556718x^2 - 173708425x + 104385025$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 1/3$	0	0.1941	0.264
42	$278093450x^2 - 213010705x + 29745562$	$[1, -3, 3, 1]$	$x^2 - 4/3x + 4/3$	1	0.4457	0.712
43	$287650168x^2 - 39302280x - 74639463$	$[0, -1, 1, 1]$	$-3/8x^2 - 5/8x + 3/8$	0	0.05534	0.060
44	$-405557008x^2 - 1008264333x + 724579262$	$[2, 6, -1, 1]$	$3x - 2$	2	0.1721	0.288
45	$1492425901x^2 + 240417694x - 645974702$	$[1, 8, -1, 2]$	$3/2x^2 - 1/2x + 1/2$	1	0.2706	0.328
46	$1897982909x^2 + 1248682027x - 1370553964$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 1/3$	0	0.1724	0.336
47	$563405045x^2 - 2823677585x + 1453123621$	$[1, 3, 1, 1]$	$1/2x^2 + 5/6x + 1/6$	1	0.3134	0.408
48	$3953813855x^2 - 1334577864x - 563405045$	$[1, 1, 1, 1]$	$-3/2x$	1	0.5367	0.608
49	$1334577864x^2 + 4072359612x - 2823677585$	$[1, -1, 0, 1]$	$1/3 - x$	1	0.1417	0.225
50	$4517218900x^2 - 4158255449x + 889718576$	$[1, 1, 0, 1]$	$x$	1	0.1015	0.191
51	$3182641036x^2 - 8230615061x + 3713396161$	$[0, -1, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	0	0.2418	0.327
52	$7699859936x^2 - 12388870510x + 4603114737$	$[0, -1, 2, 1]$	$-x^2 - 2/3x + 1/3$	0	0.2158	0.329
53	$9292125311x^2 + 14954860584x - 11858115385$	$[1, 4, 0, 1]$	$x^2 - 4/3x + 1/3$	-1	0.03270	0.065
54	$63450722088x^2 + 14422215745x - 29909721168$	$[1, 3, 4, 1]$	$-3x^2 + x$	-1	0.2560	0.326
55	$-35572456441x^2 + 93360443256x - 42300481392$	$[1, 9, -2, 1]$	$-x$	-1	0.3227	0.435
56	$27878265647x^2 + 107782659001x - 72210202560$	$[0, 1, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	0	0.3086	0.467
57	$136193569487x^2 + 43799292074x - 71677557721$	$[1, 2, 0, 1]$	$-3/2x^2 + 1/2x - 1/2$	1	0.3534	0.487
58	$-143887760281x^2 + 157343810183x - 42833126231$	$[1, 1, -1, 1]$	$1/3x^2 - 7/9x - 1/9$	1	0.2127	0.406
59	$164071835134x^2 + 151581951075x - 143887760281$	$[1, 1, 0, 1]$	$3/2x$	1	0.2020	0.529
60	$307959595415x^2 - 5761859108x - 101054634050$	$[0, -1, 1, 1]$	$-x^2 + 1/3x$	0	0.1032	0.114
61	$-459541546490x^2 + 364248771548x - 56289176133$	$[1, 3, -1, 1]$	$3/2x^2 - 1/2x + 1/2$	1	0.1648	0.270
62	$-767501141905x^2 + 370010630656x + 44765457917$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 1/3$	0	0.1811	0.223
63	$325245172739x^2 + 1215518970179x - 818028458930$	$[1, 5, 3, 1]$	$-x^2 + 4/3x - 4/3$	1	0.4070	0.620
64	$-1552287861134x^2 - 481259567975x + 806504740714$	$[1, 1, -1, 1]$	$3/2x^2 - 1/2x + 1/2$	1	0.4762	0.650
65	$-442255969166x^2 + 1585529600835x - 773263001013$	$[1, 1, 0, 1]$	$-1/4x^2 + 7/12x - 5/12$	1	0.08036	0.105
66	$4756588802505x^2 - 2578550696376x - 111248937319$	$[1, -2, -3, 1]$	$3x - 1$	1	0.5401	0.699
67	$993021095541x^2 + 4867837739824x - 3171059201670$	$[1, 5, 1, 1]$	$-x$	1	0.3294	0.482
68	$-5198844771671x^2 + 4164080297211x - 662014063694$	$[1, -1, 0, 1]$	$-x$	1	0.2188	0.362
69	$6742630993587x^2 + 7157124783272x - 6453367340659$	$[1, 2, 0, 1]$	$-3/4x^2 + 7/4x - 5/4$	1	0.2012	0.543
70	$-10948454669717x^2 + 1874793253763x + 2620294075295$	$[1, 1, -1, 1]$	$x^2 - 1/3x + 1/3$	1	0.2252	0.244
71	$8286417215503x^2 + 18478329863755x - 13568748745012$	$[1, 2, 0, 1]$	$3/2x - 1$	1	0.08121	0.141
72	$28639540333021x^2 + 3407538275746x - 11693955491249$	$[1, -2, 0, 1]$	$-3/2x^2 + 1/2x - 1/2$	1	0.1400	0.165
73	$36925957548524x^2 + 21885868139501x - 25262704236261$	$[0, 1, 1, 1]$	$-x^2 - 2/3x + 1/3$	0	0.09164	0.166
74	$-84074529924286x^2 + 80636289469554x - 18447627684769$	$[1, 5, -4, 1]$	$x^2 - 4/3x + 1/3$	-1	0.04940	0.097
75	$241908868408662x^2 + 116244417248997x - 149701432163803$	$[2, 5, 0, 1]$	$3x - 1$	-2	0.3054	0.492
76	$325983398332948x^2 + 35608127779443x - 131253804479034$	$[0, -1, 1, 1]$	$-x^2$	0	0.1880	0.220
77	$-522864105051499x^2 + 356002172793022x - 30018774460074$	$[1, 10, -1, 2]$	$3/2x^2 - 1/2x + 1/2$	-1	0.3471	0.509
78	$371011560023059x^2 + 543462845600905x - 442227815581945$	$[1, 2, 1, 1]$	$-1/2x^2 + 7/6x - 5/6$	-1	0.1213	0.258
79	$1219859063407506x^2 + 223068800587326x - 543462845600905$	$[1, -1, 1, 1]$	$-3/2x^2 + 1/2x$	-1	0.1329	0.163
80	$-629688488389828x^2 + 1763321909008411x - 813239375605004$	$[1, 3, -1, 1]$	$-x$	-1	0.1617	0.216

Number:  $\xi = .3949\dots$  Equation:  $3x^3 - 3x + 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$3x^2 - 2$	0	0.1913	0.3827
2	$-x^2 - 2x + 2$	$[2, -2, -1, 1]$	$9x^2 + 3x - 7$	-2	0.1414	0.3182
3	$4x^2 - 3x$	$[1, 3, 0, 1]$	$3x^2 - 1$	-2	0.3692	0.5769
4	$5x^2 - x - 2$	$[0, -1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.3070	0.3684
5	$x^2 + 6x - 5$	$[1, -5, -1, 2]$	$-3x^2 + 2$	-1	0.1535	0.2644
6	$11x^2 + 8x - 12$	$[1, 1, 2, 1]$	$-6x^2 - 3x + 5$	-1	0.3267	0.7465
7	$14x^2 - 5x - 4$	$[1, -2, 1, 1]$	$-3x^2 + 1$	-1	0.2903	0.3510
8	$-2x^2 + 19x - 13$	$[1, 1, -1, 1]$	$-3x^2 + 2$	-1	0.1857	0.2747
9	$23x^2 + 22x - 29$	$[1, 1, 1, 1]$	$-6x^2 - 3x + 5$	-1	0.2302	0.5074
10	$41x^2 - 21x - 7$	$[1, -2, 1, 1]$	$-3x^2 + 1$	-1	0.3003	0.3878
11	$-20x^2 + 62x - 35$	$[1, 1, -1, 1]$	$-3x^2 + 2$	-1	0.2385	0.3393
12	$44x^2 + 63x - 71$	$[1, 1, 1, 1]$	$-6x^2 - 3x + 5$	-1	0.1664	0.3613
13	$125x^2 - 82x - 8$	$[1, -2, 1, 1]$	$-3x^2 + 1$	-1	0.3367	0.4829
14	$169x^2 - 19x - 79$	$[0, 1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.3274	0.4031
15	$68x^2 + 188x - 177$	$[1, 2, 0, 1]$	$-3x^2 + 2$	1	0.1407	0.2839
16	$395x^2 - 308x + 11$	$[1, 2, -1, 1]$	$-3x^2 + 1$	1	0.4055	0.6523
17	$-430x^2 - 275x + 441$	$[1, -3, -1, 1]$	$9x^2 + 3x - 8$	1	0.4120	0.9639
18	$463x^2 - 120x - 166$	$[1, 1, 0, 1]$	$3x^2 - 1$	1	0.2964	0.3544
19	$-35x^2 - 583x + 452$	$[1, 1, 0, 1]$	$3x^2 - 2$	1	0.1632	0.2619
20	$-928x^2 - 738x + 1059$	$[1, -1, 1, 1]$	$-6x^2 - 3x + 5$	1	0.2866	0.6458
21	$1321x^2 - 548x - 321$	$[1, 2, -1, 1]$	$3x^2 - 1$	1	0.2910	0.3583
22	$358x^2 - 1869x + 1190$	$[1, 1, 1, 1]$	$3x^2 - 2$	1	0.2023	0.2918
23	$-1891x^2 - 2059x + 2570$	$[1, -1, 1, 1]$	$-6x^2 - 3x + 5$	1	0.2036	0.4444
24	$3928x^2 - 2227x - 511$	$[1, 2, -1, 1]$	$3x^2 - 1$	1	0.3104	0.4154
25	$5819x^2 - 168x - 3081$	$[0, -1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.3624	0.4643
26	$2395x^2 - 6155x + 3249$	$[1, 1, 1, 1]$	$3x^2 - 1$	1	0.2647	0.3785
27	$-3424x^2 - 5987x + 6330$	$[0, -1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.1489	0.3258
28	$12142x^2 - 8550x - 343$	$[1, 1, 1, 1]$	$3x^2 - 1$	1	0.3577	0.5354
29	$15566x^2 - 2563x - 6673$	$[0, -1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.3128	0.3788
30	$-4453x^2 - 18129x + 15909$	$[1, 2, 0, 1]$	$3x^2 - 2$	1	0.1474	0.2697
31	$38821x^2 - 31805x + 2220$	$[1, 2, 1, 1]$	$3x^2 - 1$	1	0.4410	0.7385
32	$-36614x^2 - 25145x + 38834$	$[1, 3, -1, 1]$	$9x^2 + 3x - 8$	1	0.3598	0.8304
33	$-43274x^2 + 13676x + 13689$	$[1, -1, 0, 1]$	$-3x^2 + 1$	1	0.2916	0.3499
34	$2207x^2 - 56950x + 41054$	$[1, 1, 0, 1]$	$-3x^2 + 2$	1	0.1754	0.2668
35	$-77681x^2 - 68419x + 93577$	$[1, 1, 1, 1]$	$-6x^2 - 3x + 5$	1	0.2520	0.5603
36	$-125369x^2 + 59157x + 25158$	$[1, -2, 1, 1]$	$-3x^2 + 1$	1	0.2952	0.3728
37	$49895x^2 - 184526x + 109473$	$[1, 1, -1, 1]$	$-3x^2 + 2$	1	0.2221	0.3165
38	$-153155x^2 - 193788x + 228208$	$[1, 1, 1, 1]$	$-6x^2 - 3x + 5$	1	0.1807	0.3925
39	$-378314x^2 + 234421x + 34420$	$[1, -2, 1, 1]$	$-3x^2 + 1$	1	0.3242	0.4514
40	$531469x^2 - 40633x - 262628$	$[0, -1, -1, 1]$	$6x^2 + 3x - 5$	0	0.3405	0.4256

41	$-256415x^2 - 572102x + 565889$	$[1, 2, 0, 1]$	$3x^2 - 2$	1	0.1370	0.2986
42	$-1184837x^2 + 887789x - 6213$	$[1, -2, -1, 1]$	$-3x^2 + 1$	1	0.3836	0.5989
43	$-1422613x^2 - 869150x + 1428826$	$[1, 3, 1, 1]$	$-9x^2 - 3x + 8$	1	0.4547	1.074
44	$-1441252x^2 + 315687x + 559676$	$[1, 1, 0, 1]$	$-3x^2 + 1$	1	0.3020	0.3620
45	$237776x^2 + 1756939x - 1435039$	$[1, -1, 0, 1]$	$3x^2 - 2$	1	0.1559	0.2627
46	$-3101641x^2 - 2310402x + 3423541$	$[1, 1, -1, 1]$	$6x^2 + 3x - 5$	1	0.3149	0.7167
47	$-4067341x^2 + 1519163x + 1113139$	$[1, 2, 1, 1]$	$-3x^2 + 1$	1	0.2901	0.3523
48	$-727924x^2 + 5586504x - 3745441$	$[1, -1, 1, 1]$	$3x^2 - 2$	1	0.1901	0.2787
49	$-6441058x^2 - 6377743x + 8282121$	$[1, 1, -1, 1]$	$6x^2 + 3x - 5$	1	0.2223	0.4885
50	$-11964247x^2 + 6314428x + 1904378$	$[1, 2, 1, 1]$	$-3x^2 + 1$	1	0.3028	0.3948
51	$-6251113x^2 + 18278675x - 10123184$	$[1, -1, 1, 1]$	$3x^2 - 2$	1	0.2454	0.3494
52	$-12154192x^2 - 18341990x + 20309683$	$[1, 1, -1, 1]$	$6x^2 + 3x - 5$	1	0.1612	0.3504
53	$-36620665x^2 + 24529788x + 1967693$	$[1, 2, 1, 1]$	$-3x^2 + 1$	1	0.3421	0.4966
54	$48774857x^2 - 6187798x - 22277376$	$[0, -1, -1, 1]$	$6x^2 + 3x - 5$	0	0.3229	0.3955
55	$18057271x^2 + 54962655x - 50742550$	$[1, -2, 0, 1]$	$-3x^2 + 2$	1	0.1424	0.2792
56	$-116113108x^2 + 91868039x - 4220105$	$[1, -2, 1, 1]$	$3x^2 - 1$	1	0.4148	0.6751
57	$-121510064x^2 - 79207724x + 125730169$	$[1, -3, 1, 1]$	$-9x^2 - 3x + 8$	1	0.3965	0.9242
58	$134170379x^2 - 36905384x - 46522445$	$[1, -1, 0, 1]$	$3x^2 - 1$	1	0.2947	0.3525
59	$5396956x^2 + 171075763x - 129950274$	$[1, -1, 0, 1]$	$-3x^2 + 2$	1	0.1664	0.2626
60	$-261077399x^2 - 213378103x + 302202888$	$[1, -1, -1, 1]$	$6x^2 + 3x - 5$	1	0.2763	0.6203
61	$384453866x^2 - 165678807x - 88824785$	$[1, -2, -1, 1]$	$3x^2 - 1$	1	0.2919	0.3617
62	$-117979511x^2 + 550132673x - 343328377$	$[1, -1, -1, 1]$	$-3x^2 + 2$	1	0.2076	0.2979
63	$-527551754x^2 - 597831969x + 734356050$	$[1, -1, -1, 1]$	$6x^2 + 3x - 5$	1	0.1968	0.4288
64	$1147964642x^2 - 668112184x - 136524081$	$[1, -2, -1, 1]$	$3x^2 - 1$	1	0.3139	0.4246
65	$1675516396x^2 - 70280215x - 870880131$	$[0, -1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.3558	0.4525
66	$937123997x^2 + 1745796611x - 1812040477$	$[1, -2, 0, 1]$	$-3x^2 + 2$	1	0.1445	0.3173
67	$3561873437x^2 - 2554469225x - 66243866$	$[1, 2, -1, 1]$	$-3x^2 + 1$	1	0.3645	0.5521
68	$-4498997434x^2 + 808672614x + 1878284343$	$[0, -1, -1, 1]$	$6x^2 + 3x - 5$	0	0.3094	0.3733
69	$-1135855595x^2 - 5307670048x + 4565241300$	$[1, -3, 0, 1]$	$-3x^2 + 2$	1	0.1496	0.2670
70	$10332582061x^2 + 7252198257x - 11075010809$	$[1, -1, -2, 1]$	$6x^2 + 3x - 5$	1	0.3465	0.7966
71	$-12559868305x^2 + 4171814453x + 3822812552$	$[1, -2, -1, 1]$	$3x^2 - 1$	1	0.2908	0.3499
72	$1091430649x^2 - 16731682758x + 11817439557$	$[1, -1, -1, 1]$	$-3x^2 + 2$	1	0.1793	0.2694
73	$21801019717x^2 + 19812066562x - 26715262918$	$[1, -1, -1, 1]$	$6x^2 + 3x - 5$	1	0.2432	0.5388
74	$-36543749320x^2 + 17823113407x + 6903196356$	$[1, -2, -1, 1]$	$3x^2 - 1$	1	0.2970	0.3782
75	$15834160252x^2 - 54366862727x + 31629506119$	$[1, -1, -1, 1]$	$-3x^2 + 2$	1	0.2283	0.3249
76	$42510608785x^2 + 56355815882x - 65247965393$	$[1, -1, -1, 1]$	$6x^2 + 3x - 5$	1	0.1749	0.3797
77	$-110722678609x^2 + 70201022979x + 8892149511$	$[1, -2, -1, 1]$	$3x^2 - 1$	1	0.3288	0.4631
78	$-153233287394x^2 + 13845207097x + 74140114904$	$[0, -1, 1, 1]$	$-6x^2 - 3x + 5$	0	0.3351	0.4163
79	$-69187057318x^2 - 167078494491x + 162125436905$	$[1, -2, 0, 1]$	$-3x^2 + 2$	1	0.1384	0.2924
80	$-348002196079x^2 + 264969931664x - 4953057586$	$[1, 2, -1, 1]$	$-3x^2 + 1$	1	0.3918	0.6190

Number:  $\xi = .7422\dots$  Equation:  $3x^3 - 3x + 1 = 0$ . “All” optimal polynomials.



Number:  $\xi = .8514\dots$  Equation:  $3x^3 - x - 1 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3x^2 + 2$	0	0.1265	0.2531
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-3x^2 + 2$	-1	0.08835	0.1325
3	$2x^2 + 3x - 4$	[1, 5, -4, 1]	$3x^2 - 2$	-1	0.06169	0.1118
4	$14x^2 + x - 11$	[1, 5, 4, 1]	$-3x^2 + 2$	-1	0.1319	0.2140
5	$22x^2 - 34x + 13$	[2, -11, 3, 1]	$-3x^2 + 3x$	-2	0.2953	0.4621
6	$47x^2 - 13x - 23$	[1, 5, 1, 2]	$x^2 - x - 1/3$	-1	0.2595	0.3415
7	$17x^2 + 56x - 60$	[1, -2, 1, 1]	$3x^2 - 3x$	-1	0.1605	0.3133
8	$116x^2 - 60x - 33$	[1, 2, 0, 1]	$-x^2 + x + 1/3$	-1	0.2759	0.3721
9	$197x^2 + 39x - 176$	[1, 2, 1, 1]	$3x^2 - 3x$	-1	0.3021	0.5551
10	$-215x^2 + 176x + 6$	[1, -2, 0, 1]	$x^2 - x - 1/3$	-1	0.1655	0.2765
11	$-233x^2 + 391x - 164$	[0, 1, 2, 1]	$-3x^2 + 2$	0	0.09553	0.1463
12	$259x^2 + 624x - 719$	[1, 4, 3, 1]	$-3x^2 + 2$	1	0.05639	0.1062
13	$-2416x^2 - 365x + 2062$	[1, 5, -4, 1]	$3x^2 - 2$	1	0.1111	0.1946
14	$3737x^2 + 4500x - 6540$	[1, 6, -1, 1]	$3x - 2$	1	0.4513	0.8123
15	$4865x^2 - 6551x + 2051$	[1, -5, -2, 1]	$-6/7x^2 + 3/7x - 3/7$	1	0.3102	0.5116
16	$8602x^2 - 2051x - 4489$	[0, 1, 1, 1]	$x^2 - x - 1/3$	0	0.2459	0.3269
17	$-1288x^2 - 11416x + 10653$	[1, -1, 1, 1]	$-3x^2 + 3x$	-1	0.1644	0.3097
18	$22069x^2 - 10653x - 6927$	[1, 2, 0, 1]	$x^2 - x - 1/3$	-1	0.2826	0.3763
19	$33247x^2 + 10128x - 32722$	[1, -2, 1, 1]	$3x^2 - 3x$	-1	0.2434	0.5018
20	$42850x^2 - 32722x - 3201$	[1, 2, 0, 1]	$-x^2 + x + 1/3$	-1	0.1860	0.2954
21	$52453x^2 - 75572x + 26320$	[0, -1, 2, 1]	$-3x^2 + 2$	0	0.1010	0.1619
22	$26507x^2 + 128025x - 128212$	[1, 4, -3, 1]	$3x^2 - 2$	-1	0.05073	0.1035
23	$411143x^2 + 101518x - 384449$	[1, 5, 4, 1]	$-3x^2 + 2$	-1	0.09106	0.1762
24	$-517732x^2 - 945240x + 1180041$	[1, -6, -1, 1]	$3x - 2$	-1	0.4157	0.7624
25	$1046758x^2 - 1254865x + 309625$	[1, 5, 2, 1]	$6/7x^2 - 3/7x + 3/7$	-1	0.3220	0.5657
26	$1564490x^2 - 309625x - 870416$	[0, -1, 1, 1]	$x^2 - x - 1/3$	0	0.2302	0.3104
27	$-117883x^2 + 2301623x - 1874115$	[1, -1, -1, 1]	$3x^2 - 3x$	-1	0.1891	0.3150
28	$4175738x^2 - 1874115x - 1431207$	[1, 2, 0, 1]	$-x^2 + x + 1/3$	-1	0.2862	0.3775
29	$5504462x^2 + 2419506x - 6049853$	[1, 2, 1, 1]	$3x^2 - 3x$	-1	0.2281	0.4533
30	$-8469359x^2 + 6049853x + 988299$	[1, -2, 0, 1]	$x^2 - x - 1/3$	-1	0.2055	0.3132
31	$-11434256x^2 + 14519212x - 4073255$	[0, 1, 2, 1]	$-3x^2 + 2$	0	0.1054	0.1791
32	$785509x^2 + 25953468x - 22665722$	[1, 4, 3, 1]	$-3x^2 + 2$	1	0.05881	0.1037
33	$-68782675x^2 - 25167959x + 71284912$	[1, 5, -4, 1]	$3x^2 - 2$	1	0.07745	0.1592
34	$62061473x^2 + 195407979x - 211352499$	[1, 6, -1, 1]	$3x - 2$	1	0.3773	0.7323
35	$220575938x^2 - 239022695x + 43614716$	[1, -5, -2, 1]	$-6/7x^2 + 3/7x - 3/7$	1	0.3305	0.6230
36	$282637411x^2 - 43614716x - 167737783$	[0, 1, 1, 1]	$x^2 - x - 1/3$	0	0.2125	0.2924
37	$89731790x^2 - 459598633x + 326252127$	[1, -1, 1, 1]	$-3x^2 + 3x$	-1	0.2133	0.3289
38	$785850760x^2 - 326252127x - 291860850$	[1, 2, 0, 1]	$x^2 - x - 1/3$	-1	0.2868	0.3758
39	$889024591x^2 + 549330423x - 1112102887$	[1, -2, 1, 1]	$3x^2 - 3x$	-1	0.2180	0.4105
40	$1661433310x^2 - 1112102887x - 257469573$	[1, 2, 0, 1]	$-x^2 + x + 1/3$	-1	0.2238	0.3294



41	$2433842029x^2 - 2773536197x + 597163741$	$[0, -1, 2, 1]$	$-3x^2 + 2$	0	0.0
42	$-642350806x^2 + 5207378226x - 3967863679$	$[1, 4, -3, 1]$	$3x^2 - 2$	-1	0.0
43	$11261240231x^2 + 5849729032x - 13143105584$	$[1, 5, 4, 1]$	$-3x^2 + 2$	-1	0.0
44	$-4973293366x^2 - 39867534585x + 37547451399$	$[1, -6, -1, 1]$	$3x - 2$	-1	0.0
45	$45717263617x^2 - 45279045784x + 5411511199$	$[1, 5, 2, 1]$	$6/7x^2 - 3/7x + 3/7$	-1	0.0
46	$50690556983x^2 - 5411511199x - 32135940200$	$[0, -1, 1, 1]$	$x^2 - x - 1/3$	0	0.0
47	$21207826963x^2 + 85584798202x - 88238008382$	$[1, -2, 0, 1]$	$3x^2 - 3x + 1$	-1	0.0
48	$-29482730020x^2 + 90996309401x - 56102068182$	$[0, -1, 1, 1]$	$-3/7x^2 - 6/7x + 3/7$	0	0.0
49	$147098377583x^2 - 56102068182x - 58860369201$	$[1, 2, 0, 1]$	$-x^2 + x + 1/3$	-1	0.0
50	$138823474526x^2 + 120479039421x - 203200445765$	$[1, 1, 1, 1]$	$3x^2 - 3x$	-1	0.0
51	$-323679485186x^2 + 203200445765x + 61618670220$	$[1, -2, 0, 1]$	$x^2 - x - 1/3$	-1	0.0
52	$-508535495846x^2 + 526879930951x - 79963105325$	$[0, 1, 2, 1]$	$-3x^2 + 2$	0	0.0
53	$-268646179871x^2 + 1035415426797x - 686806141601$	$[1, 4, 3, 1]$	$-3x^2 + 2$	1	0.0
54	$-1791772244932x^2 - 1304061606668x + 2409027709999$	$[1, 5, -4, 1]$	$3x^2 - 2$	1	0.0
55	$-328640330140x^2 + 8043434098401x - 6609827664930$	$[1, 6, -1, 1]$	$3x - 2$	1	0.0
56	$9018855374929x^2 - 487710638264x - 6122117026666$	$[1, -5, -1, 1]$	$-6/7x^2 + 3/7x + 4/7$	1	0.0
57	$-1134491584652x^2 - 17390929803470x + 15628683039859$	$[1, -2, 0, 1]$	$-3x^2 + 3x - 1$	1	0.0
58	$-7884363790277x^2 + 17878640441734x - 9506566013193$	$[0, -1, -1, 1]$	$3/7x^2 + 6/7x - 3/7$	0	0.0
59	$-27385206454927x^2 + 9506566013193x + 11756523415068$	$[1, -3, 0, 1]$	$x^2 - x - 1/3$	1	0.0
60	$-20635334249302x^2 - 25763004232011x + 36891772468120$	$[1, -1, 1, 1]$	$3x^2 - 3x$	1	0.0
61	$-62654776700131x^2 + 36891772468120x + 14006480816943$	$[1, 2, 0, 1]$	$-x^2 + x + 1/3$	1	0.0
62	$-104674219150960x^2 + 99546549168251x - 8878810834234$	$[0, -1, 2, 1]$	$-3x^2 + 2$	0	0.0
63	$78037786648258x^2 - 204220768319211x + 117304170836719$	$[1, 4, -3, 1]$	$3x^2 - 2$	1	0.0
64	$-273874725861899x^2 - 282258554967469x + 438829109992649$	$[1, 5, 4, 1]$	$-3x^2 + 2$	1	0.0
65	$-1590362055839846x^2 - 8383829105570x + 1159916774952767$	$[1, -5, 4, 1]$	$-3x^2 + 2$	1	0.0
66	$1914539756335165x^2 - 3488134153963871x + 1581978226734276$	$[2, 11, -3, 1]$	$3x^2 - 3x$	2	0.0
67	$-5070112380698147x^2 + 1581978226734276x + 2328217379011104$	$[1, 5, -1, 2]$	$-x^2 + x + 1/3$	1	0.0
68	$-2831394923867663x^2 - 5402673910299036x + 6652090607432423$	$[1, 2, 1, 1]$	$3x^2 - 3x$	1	0.0
69	$12054764517731459x^2 - 6652090607432423x - 3074456531287932$	$[1, -2, 0, 1]$	$x^2 - x - 1/3$	1	0.0
70	$21278134111595255x^2 - 18706855125163882x + 503177544856559$	$[0, 1, 2, 1]$	$-3x^2 + 2$	0	0.0
71	$19768601477025578x^2 - 39984989236759137x + 19713210214877000$	$[1, 4, 3, 1]$	$-3x^2 + 2$	-1	0.0
72	$39371029167605422x^2 + 59753590713784715x - 79411409666513137$	$[1, 5, -4, 1]$	$3x^2 - 2$	-1	0.0
73	$277605258167144833x^2 + 20382561546179293x - 218576410046810989$	$[1, 5, 4, 1]$	$-3x^2 + 2$	-1	0.0
74	$439271656611826013x^2 - 676111791686612260x + 257222696620965540$	$[2, -11, 3, 1]$	$-3x^2 + 3x$	-2	0.0
75	$933334488307577800x^2 - 257222696620965540x - 457535381639801271$	$[1, 5, 1, 2]$	$x^2 - x - 1/3$	-1	0.0
76	$332396433251070607x^2 + 1115383448298438273x - 1190557184928543340$	$[1, -2, 1, 1]$	$3x^2 - 3x$	-1	0.0
77	$2305940633226981613x^2 - 1190557184928543340x - 657848066658637002$	$[1, 2, 0, 1]$	$-x^2 + x + 1/3$	-1	0.0
78	$3904067988036700627x^2 + 782987015047367666x - 3496497818155524953$	$[1, 2, 1, 1]$	$3x^2 - 3x$	-1	0.0
79	$-4279484833202892619x^2 + 3496497818155524953x + 125138948388730664$	$[1, -2, 0, 1]$	$x^2 - x - 1/3$	-1	0.0
80	$-4654901678369084611x^2 + 7775982651358417572x - 3246219921378063625$	$[0, 1, 2, 1]$	$-3x^2 + 2$	0	0.0

Number:  $\xi = .6934\dots$  Equation:  $3x^3 - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$-3x^2 + 3x - 1$	-1	0.1741	0.5223
2	$-2x^2 + 1$	[1, -1, 1, 1]	$-3/2x^2 + 1/2$	-1	0.1540	0.1925
3	$-4x^2 - 3x + 4$	[1, 3, 1, 1]	$2 - 3x$	-1	0.04933	0.1264
4	$-16x^2 + x + 7$	[2, 9, -1, 1]	$-3x^2 + 1$	-2	0.3491	0.4173
5	$x^2 - 18x + 12$	[1, 11, -3, 2]	$3/2x^2 - 3/2x + 1/2$	-1	0.08000	0.1158
6	$-35x^2 - 19x + 30$	[1, 2, 1, 1]	$-3x^2 + 1$	-1	0.1338	0.2715
7	$-56x^2 + 72x - 23$	[1, -5, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	-1	0.1025	0.1750
8	$-13x^2 - 128x + 95$	[1, 2, -1, 1]	$3x^2 - 1$	-1	0.1433	0.2237
9	$-298x^2 - 115x + 223$	[1, 4, 3, 1]	$-3x^2 + 1$	-1	0.3435	0.5869
10	$-328x^2 + 213x + 10$	[1, -2, 1, 1]	$-3/4x^2 + 3/4x + 1/4$	-1	0.1704	0.2424
11	$-358x^2 + 541x - 203$	[0, -1, 2, 1]	$-3x^2 + 1$	0	0.2050	0.3236
12	$-251x^2 - 899x + 744$	[1, 3, -2, 1]	$3x^2 - 1$	-1	0.2503	0.4413
13	$-1295x^2 + 396x + 348$	[1, 2, 1, 1]	$-3/4x^2 + 3/4x + 1/4$	-1	0.2127	0.2479
14	$1439x^2 + 1943x - 2039$	[1, -2, -1, 1]	$-3x^2 + 3x - 1$	-1	0.1910	0.4595
15	$3778x^2 + 252x - 1991$	[1, -2, 1, 1]	$-3/2x^2 + 1/2$	-1	0.1450	0.1859
16	$6800x^2 + 6477x - 7760$	[1, 3, 1, 1]	$2 - 3x$	-1	0.04898	0.1207
17	$30080x^2 - 323x - 14237$	[2, 9, -1, 1]	$-3x^2 + 1$	-2	0.3255	0.3984
18	$-5831x^2 + 36234x - 22320$	[1, 11, -3, 2]	$3/2x^2 - 3/2x + 1/2$	-1	0.08552	0.1202
19	$61129x^2 + 42065x - 58554$	[1, 2, 1, 1]	$-3x^2 + 1$	-1	0.1076	0.2574
20	$120364x^2 - 139428x + 38809$	[1, -5, 1, 1]	$-3/2x^2 + 3/2x - 1/2$	-1	0.1014	0.1848
21	$-3937x^2 + 259792x - 178237$	[1, 2, -1, 1]	$3x^2 - 1$	-1	0.1557	0.2290
22	$530774x^2 + 263729x - 438029$	[1, 4, 3, 1]	$-3x^2 + 1$	-1	0.2874	0.5541
23	$659012x^2 - 395283x - 42746$	[1, -2, 1, 1]	$-3/4x^2 + 3/4x + 1/4$	-1	0.1814	0.2475
24	$787250x^2 - 1054295x + 352537$	[0, -1, 2, 1]	$-3x^2 + 1$	0	0.2054	0.3428
25	$1716623x^2 + 391967x - 1097041$	[1, 2, 1, 1]	$3/2x^2 - 3/2x - 1/2$	-1	0.4458	0.6512
26	$-270361x^2 - 1841545x + 1406832$	[1, 1, -1, 1]	$3/2x - 1/2$	-1	0.2771	0.4448
27	$2503873x^2 - 662328x - 744504$	[1, 1, 0, 1]	$3/4x^2 - 3/4x - 1/4$	-1	0.2097	0.2430
28	$2257345x^2 + 4075057x - 3910705$	[1, -2, 0, 1]	$3x^2 - 3x + 1$	-1	0.2012	0.4482
29	$6994730x^2 + 908856x - 3992881$	[1, 2, 1, 1]	$-3/2x^2 + 1/2$	-1	0.1311	0.1760
30	$-11262892x^2 - 13796355x + 14980492$	[1, -3, -1, 1]	$3x - 2$	-1	0.04815	0.1162
31	$56204368x^2 + 2533463x - 28776847$	[2, 9, 1, 1]	$3x^2 - 1$	-2	0.2997	0.3789
32	$-18863281x^2 + 72534186x - 41223876$	[1, -11, -3, 2]	$3/2x^2 - 3/2x + 1/2$	-1	0.09040	0.1257
33	$-104808347x^2 - 91397467x + 113758062$	[1, -2, -1, 1]	$3x^2 - 1$	-1	0.09834	0.2453
34	$255329120x^2 - 268740000x + 63584471$	[1, -5, -1, 1]	$3/2x^2 - 3/2x + 1/2$	-1	0.09938	0.1947
35	$-64575707x^2 + 524069120x - 332324471$	[1, -2, -1, 1]	$3x^2 - 1$	-1	0.1671	0.2369
36	$-932397706x^2 - 588644827x + 856393591$	[1, -4, -3, 1]	$3x^2 - 1$	-1	0.2340	0.5246
37	$1316878240x^2 - 728233413x - 128160178$	[1, -2, -1, 1]	$3/4x^2 - 3/4x - 1/4$	-1	0.1911	0.2514
38	$-1701358774x^2 + 2045111653x - 600073235$	[0, -1, -2, 1]	$3x^2 - 1$	0	0.2038	0.3625
39	$3117097945x^2 + 973125361x - 2173271831$	[1, -2, 1, 1]	$-3/2x^2 + 3/2x + 1/2$	-1	0.3878	0.6141
40	$-98860931x^2 - 3746470427x + 2645184888$	[1, -1, -1, 1]	$3/2x - 1/2$	-1	0.3025	0.4535

41	$-4818456719x^2 + 1071986292x + 1573198596$	$[1, -1, 0, 1]$	$-3/4x^2 + 3/4x + 1/4$	-1
42	$3314819807x^2 + 8466066215x - 7463641607$	$[1, -2, 0, 1]$	$-3x^2 + 3x - 1$	-1
43	$12852872314x^2 + 2575623204x - 7964853911$	$[1, -2, 1, 1]$	$-3/2x^2 + 1/2$	-1
44	$17978875016x^2 + 29045808141x - 28782580136$	$[1, 3, 1, 1]$	$2 - 3x$	-1
45	$104326615424x^2 + 11066933125x - 57828388277$	$[2, 9, -1, 1]$	$-3x^2 + 1$	-2
46	$-51179674391x^2 + 144439356690x - 75544035288$	$[1, 11, -3, 2]$	$3/2x^2 - 3/2x + 1/2$	-1
47	$175452431473x^2 + 195619031081x - 219983391978$	$[1, 2, 1, 1]$	$-3x^2 + 1$	-1
48	$535677418852x^2 - 515510819244x + 99908396185$	$[1, -5, 1, 1]$	$-3/2x^2 + 3/2x - 1/2$	-1
49	$-235952230297x^2 + 1051188238096x - 615419215429$	$[1, 2, -1, 1]$	$3x^2 - 1$	-1
50	$1610305415990x^2 + 1287140468393x - 1666607453525$	$[1, 4, 3, 1]$	$-3x^2 + 1$	-1
51	$2617887295436x^2 - 1330746827043x - 335860626482$	$[1, -2, 1, 1]$	$-3/4x^2 + 3/4x + 1/4$	-1
52	$3625469174882x^2 - 3948634122479x + 994886200561$	$[0, -1, 2, 1]$	$-3x^2 + 1$	0
53	$5602545897119x^2 + 2294722347839x - 4284494748961$	$[1, 2, 1, 1]$	$3/2x^2 - 3/2x - 1/2$	-1
54	$640810573199x^2 - 7574103297361x + 4943520323040$	$[1, 1, -1, 1]$	$3/2x - 1/2$	-1
55	$9228015072001x^2 - 1653911774640x - 3289608548400$	$[1, 1, 0, 1]$	$3/4x^2 - 3/4x - 1/4$	-1
56	$4320924750721x^2 + 17442928942561x - 14171535395041$	$[1, -2, 0, 1]$	$3x^2 - 3x + 1$	-1
57	$23417765467922x^2 + 6561002095920x - 15807232168801$	$[1, 2, 1, 1]$	$-3/2x^2 + 1/2$	-1
58	$-27152524648084x^2 - 60543700698243x + 55032229805524$	$[1, -3, -1, 1]$	$3x - 2$	-1
59	$192249214064656x^2 + 33391176050159x - 115575930503767$	$[2, 9, 1, 1]$	$3x^2 - 1$	-2
60	$-127326052798561x^2 + 286184090813058x - 137216984259132$	$[1, -11, -3, 2]$	$3/2x^2 - 3/2x + 1/2$	-1
61	$-284324899978835x^2 - 413510143611619x + 423401075072190$	$[1, -2, -1, 1]$	$3x^2 - 1$	-1
62	$1113204378036296x^2 - 984019134403512x + 147107915719703$	$[1, -5, -1, 1]$	$3/2x^2 - 3/2x + 1/2$	-1
63	$-671880630877187x^2 + 2097223512439808x - 1131127050123215$	$[1, -2, -1, 1]$	$3x^2 - 1$	-1
64	$-2721500519492458x^2 - 2769104143316995x + 3228350562563023$	$[1, -4, -3, 1]$	$3x^2 - 1$	-1
65	$5178466159283128x^2 - 2409362015966133x - 818988546596890$	$[1, -2, -1, 1]$	$3/4x^2 - 3/4x - 1/4$	-1
66	$7635431799073798x^2 - 7587828175249261x + 1590373469369243$	$[0, 1, 2, 1]$	$-3x^2 + 1$	0
67	$9949586567390857x^2 + 5226069783107665x - 8406816721846151$	$[1, -2, 1, 1]$	$3/2x^2 - 3/2x - 1/2$	1
68	$2864311390966069x^2 - 15223259974323059x + 9178201644618504$	$[1, 1, -1, 1]$	$3/2x - 1/2$	1
69	$17585018366464655x^2 - 2361758392141596x - 6816443252476908$	$[1, 1, 0, 1]$	$3/4x^2 - 3/4x - 1/4$	1
70	$4220963785458719x^2 + 35672589731753783x - 26763220011083159$	$[1, -2, 0, 1]$	$3x^2 - 3x + 1$	1
71	$42255311909354098x^2 + 15725812973147532x - 31217904871418471$	$[1, 2, 1, 1]$	$-3/2x^2 + 1/2$	1
72	$-37333184899265600x^2 - 125105340560550477x + 104691121652191040$	$[1, -3, -1, 1]$	$3x - 2$	1
73	$351406549855838720x^2 + 87772155661284877x - 229796462212741517$	$[2, 9, 1, 1]$	$3x^2 - 1$	2
74	$-300649651883120231x^2 + 564284046077674074x - 246715428203647680$	$[1, -11, -3, 2]$	$3/2x^2 - 3/2x + 1/2$	1
75	$-439496632727822809x^2 - 864933697960794305x + 810999474281321754$	$[1, -2, -1, 1]$	$3x^2 - 1$	1
76	$2294151441999262684x^2 - 1868714376766291188x + 192781204524175129$	$[1, -5, -1, 1]$	$3/2x^2 - 3/2x + 1/2$	1
77	$-1715807828426737297x^2 + 4162865818765553872x - 2061495581290466317$	$[1, -2, -1, 1]$	$3x^2 - 1$	1
78	$-4468678915444661654x^2 - 5878673647192291169x + 6224361400056020189$	$[1, -4, -3, 1]$	$3x^2 - 1$	1
79	$10194446014297398932x^2 - 4315772367105107763x - 1908589032950912426$	$[1, -2, -1, 1]$	$3/4x^2 - 3/4x - 1/4$	1
80	$-15920213113150136210x^2 + 14510218381402506695x - 2407183334154195337$	$[0, -1, -2, 1]$	$3x^2 - 1$	0

Number:  $\xi = .8894\dots$  Equation:  $3x^3 + x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 + 2/3$	0	0.09837	0.1967
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 + 2/3$	-1	0.04893	0.07340
3	$8x^2 - 6x - 1$	[1, 8, -1, 1]	$2 - 3x$	-1	0.5231	0.8256
4	$-8x^2 - 3x + 9$	[1, 7, -2, 1]	$-\frac{6}{13}x^2 + \frac{9}{13}x - \frac{9}{13}$	-1	0.2924	0.5560
5	$17x^2 - 5x - 9$	[1, 1, -1, 1]	$x^2 - 2/3$	-1	0.1297	0.1773
6	$26x^2 - 22x - 1$	[1, 2, 2, 1]	$-x^2 + 2/3$	-1	0.03774	0.06482
7	$-118x^2 + 15x + 80$	[1, -8, 1, 1]	$3x - 2$	-1	0.5194	0.7666
8	$-37x^2 - 129x + 144$	[1, 7, 2, 1]	$\frac{6}{13}x^2 - \frac{9}{13}x + \frac{9}{13}$	-1	0.3417	0.6384
9	$181x^2 + 92x - 225$	[1, -1, -1, 1]	$x^2 - 2/3$	-1	0.1037	0.1882
10	$-406x^2 + 89x + 242$	[1, -2, -2, 1]	$x^2 - 2/3$	-1	0.04200	0.05894
11	$-1079x^2 - 954x + 1702$	[1, -8, -1, 1]	$2 - 3x$	-1	0.4932	0.8464
12	$-1485x^2 - 865x + 1944$	[0, 1, 1, 1]	$-\frac{9}{13}x^2 - \frac{6}{13}x + \frac{6}{13}$	0	0.3195	0.5692
13	$865x^2 - 2439x + 1485$	[1, -7, 2, 1]	$-x$	1	0.4473	0.6694
14	$-620x^2 - 3304x + 3429$	[0, 1, 1, 1]	$-x^2 + 2/3$	0	0.1100	0.2156
15	$-4049x^2 - 2684x + 5590$	[1, 2, 0, 1]	$-x^2 + 2/3$	-1	0.03634	0.06378
16	$-46x^2 - 26187x + 23327$	[1, 8, -1, 1]	$2 - 3x$	-1	0.5329	0.9557
17	$-4095x^2 - 28871x + 28917$	[0, 1, 1, 1]	$-\frac{9}{13}x^2 - \frac{6}{13}x + \frac{6}{13}$	0	0.3227	0.6508
18	$-28871x^2 + 30282x - 4095$	[1, 7, -2, 1]	$x$	1	0.3147	0.6065
19	$-33012x^2 - 24776x + 48149$	[1, 1, 1, 1]	$2/3x^2 - x + 2/9$	1	0.1113	0.1930
20	$24776x^2 - 59153x + 33012$	[1, -1, 0, 1]	$-x$	1	0.1493	0.2221
21	$-8236x^2 - 83929x + 81161$	[0, 1, 1, 1]	$-x^2 + 2/3$	0	0.03739	0.07271
22	$-268191x^2 - 227079x + 414109$	[1, 8, 1, 1]	$-3x^2 + 2$	-1	0.3396	0.5841
23	$503506x^2 - 192498x - 227079$	[1, 7, -2, 1]	$x^2$	-1	0.3971	0.5359
24	$730585x^2 - 696004x + 41112$	[1, 1, 2, 1]	$-x^2 + 2/3$	-1	0.1040	0.1987
25	$689473x^2 - 1426589x + 723412$	[1, -1, 2, 1]	$-x^2 + 2/3$	-1	0.04930	0.07349
26	$5658713x^2 - 4333941x - 621595$	[1, 8, -1, 1]	$2 - 3x$	-1	0.5183	0.8286
27	$-5760530x^2 - 2014245x + 6348186$	[1, 7, -2, 1]	$-\frac{6}{13}x^2 + \frac{9}{13}x - \frac{9}{13}$	-1	0.2881	0.5543
28	$-5862347x^2 - 8362431x + 12074777$	[0, 1, 2, 1]	$-1/3x^2 - x + \frac{8}{9}$	0	0.2753	0.4723
29	$12108716x^2 - 3746285x - 6246369$	[1, 1, -1, 1]	$3/7x^2 - 3/7x - 3/7$	1	0.1303	0.1775
30	$18355085x^2 - 15855001x - 417961$	[0, 1, 2, 1]	$-x^2 + 2/3$	0	0.03725	0.06506
31	$-84275173x^2 + 12101034x + 55901177$	[1, 1, -6, 1]	$3x - 2$	-1	0.5247	0.7663
32	$-27956035x^2 - 90529224x + 102630258$	[1, 7, 2, 1]	$\frac{6}{13}x^2 - \frac{9}{13}x + \frac{9}{13}$	-1	0.3436	0.6365
33	$130586293x^2 + 62573189x - 158949396$	[1, -1, -1, 1]	$x^2 - 2/3$	-1	0.1025	0.1876
34	$-289535689x^2 + 68013104x + 168539453$	[1, -2, -2, 1]	$x^2 - 2/3$	-1	0.04230	0.05896
35	$-783110690x^2 - 659127840x + 1205685973$	[1, -8, -1, 1]	$2 - 3x$	-1	0.4901	0.8433
36	$1072646379x^2 + 591114736x - 1374225426$	[0, -1, -1, 1]	$\frac{9}{13}x^2 + \frac{6}{13}x - \frac{6}{13}$	0	0.3162	0.5673
37	$591114736x^2 - 1731774219x + 1072646379$	[1, -7, 2, 1]	$x$	-1	0.4466	0.6699
38	$-481531643x^2 - 2322888955x + 2446871805$	[0, -1, 1, 1]	$-x^2 + 2/3$	0	0.1109	0.2151
39	$-2928403448x^2 - 1841357312x + 3954136825$	[1, -2, 0, 1]	$-x^2 + 2/3$	-1	0.03600	0.06356
40	$-332734960x^2 - 18473528547x + 16693483994$	[1, 8, -1, 1]	$2 - 3x$	-1	0.5251	0.9541

41	$-3261138408x^2 - 20314885859x + 20647620819$	$[0, 1, 1, 1]$	$-\frac{9}{13}x^2 - \frac{6}{13}x + \frac{6}{13}$	0	0
42	$-20314885859x^2 + 21734666955x - 3261138408$	$[1, 7, -2, 1]$	$x$	1	0
43	$-23908759227x^2 - 17053747451x + 34079966405$	$[1, 1, 1, 1]$	$2/3x^2 - x + 2/9$	1	0
44	$17053747451x^2 - 42049552814x + 23908759227$	$[1, -1, 0, 1]$	$-x$	1	0
45	$-6855011776x^2 - 59103300265x + 57988725632$	$[0, 1, 1, 1]$	$-x^2 + 2/3$	0	0
46	$-194531212224x^2 - 156744865467x + 293287352059$	$[1, 8, 1, 1]$	$-3x^2 + 2$	-1	0
47	$358131089467x^2 - 142282923735x - 156744865467$	$[1, 7, -2, 1]$	$x^2$	-1	0
48	$514875954934x^2 - 500414013202x + 37786346757$	$[1, 1, 2, 1]$	$-x^2 + 2/3$	-1	0
49	$477089608177x^2 - 1015289968136x + 525604911040$	$[1, -1, 2, 1]$	$-x^2 + 2/3$	-1	0
50	$4000049120762x^2 - 3130305061215x - 380059002451$	$[1, 8, -1, 1]$	$2 - 3x$	-1	0
51	$-4145595029351x^2 - 1346833667724x + 4477138728939$	$[1, 7, -2, 1]$	$-\frac{6}{13}x^2 + \frac{9}{13}x - \frac{9}{13}$	-1	0
52	$-4291140937940x^2 - 5823972396663x + 8574218455427$	$[0, 1, 2, 1]$	$-1/3x^2 - x + \frac{8}{9}$	0	0
53	$8622733758290x^2 - 2798761361627x - 4331592820350$	$[1, 1, -1, 1]$	$3/7x^2 - 3/7x - 3/7$	1	0
54	$12954326578640x^2 - 11421495119917x - 88967185273$	$[0, 1, 2, 1]$	$-x^2 + 2/3$	0	0
55	$-60173138517031x^2 + 9621762105375x + 39040914106466$	$[1, 1, -6, 1]$	$3x - 2$	-1	0
56	$-21043257225292x^2 - 63505702990296x + 73127465095671$	$[1, 7, 2, 1]$	$\frac{6}{13}x^2 - \frac{9}{13}x + \frac{9}{13}$	-1	0
57	$94170722320963x^2 + 42462445765004x - 112257346387410$	$[1, -1, -1, 1]$	$x^2 - 2/3$	-1	0
58	$-206428068708373x^2 + 51708276555959x + 117300676689944$	$[1, -2, -2, 1]$	$x^2 - 2/3$	-1	0
59	$-567980967084623x^2 - 454913545666287x + 853885559505007$	$[1, -8, -1, 1]$	$2 - 3x$	-1	0
60	$-774409035792996x^2 - 403205269110328x + 971186236194951$	$[0, 1, 1, 1]$	$-\frac{9}{13}x^2 - \frac{6}{13}x + \frac{6}{13}$	0	0
61	$403205269110328x^2 - 1229322581459283x + 774409035792996$	$[1, -7, 2, 1]$	$-x$	1	0
62	$-371203766682668x^2 - 1632527850569611x + 1745595271987947$	$[0, 1, 1, 1]$	$-x^2 + 2/3$	0	0
63	$-2116799038670615x^2 - 1261324083886943x + 2796258031894909$	$[1, 2, 0, 1]$	$-x^2 + 2/3$	-1	0
64	$-449625825680401x^2 - 13028221302129228x + 11942913179801663$	$[1, 8, -1, 1]$	$2 - 3x$	-1	0
65	$-2566424864351016x^2 - 14289545386016171x + 14739171211696572$	$[0, 1, 1, 1]$	$-\frac{9}{13}x^2 - \frac{6}{13}x + \frac{6}{13}$	0	0
66	$-14289545386016171x^2 + 15594646166480244x - 2566424864351016$	$[1, 7, -2, 1]$	$x$	1	0
67	$-17305596076047588x^2 - 11723120521665155x + 24115659527147219$	$[1, 1, 1, 1]$	$2/3x^2 - x + 2/9$	1	0
68	$11723120521665155x^2 - 29884191552496415x + 17305596076047588$	$[1, -1, 0, 1]$	$-x$	1	0
69	$-5582475554382433x^2 - 41607312074161570x + 41421255603194807$	$[0, 1, 1, 1]$	$-x^2 + 2/3$	0	0
70	$-141011193472731720x^2 - 108074509559337411x + 207664447428874324$	$[1, 8, 1, 1]$	$-3x^2 + 2$	-1	0
71	$254668178586451564x^2 - 104986356952952583x - 108074509559337411$	$[1, 7, -2, 1]$	$x^2$	-1	0
72	$362742688145788975x^2 - 359654535539404147x + 32936683913394309$	$[1, 1, 2, 1]$	$-x^2 + 2/3$	-1	0
73	$329806004232394666x^2 - 722397223685193122x + 381612324815000353$	$[1, -1, 2, 1]$	$-x^2 + 2/3$	-1	0
74	$2826803679520368698x^2 - 2259825417582992637x - 226193363067183292$	$[1, 8, -1, 1]$	$2 - 3x$	-1	0
75	$-2982222641268185759x^2 - 896784266169770727x + 3156609683752763364$	$[1, 7, -2, 1]$	$-\frac{6}{13}x^2 + \frac{9}{13}x - \frac{9}{13}$	-1	0
76	$-3137641603016002820x^2 - 4053393949922534091x + 6087026004438343436$	$[0, 1, 2, 1]$	$-1/3x^2 - x + \frac{8}{9}$	0	0
77	$6138832325020949123x^2 - 2085438375098415032x - 3001190722004946303$	$[1, 1, -1, 1]$	$3/7x^2 - 3/7x - 3/7$	1	0
78	$9140023047025895426x^2 - 8224270700119364155x + 84644560428450830$	$[0, 1, 2, 1]$	$-x^2 + 2/3$	0	0
79	$-42952858194409883317x^2 + 7562452034498185374x + 27250780020220784618$	$[1, 1, -6, 1]$	$3x - 2$	-1	0
80	$-15786722734617549529x^2 - 44530429206937593369x + 52092881241435778743$	$[1, 7, 2, 1]$	$\frac{6}{13}x^2 - \frac{9}{13}x + \frac{9}{13}$	-1	0

Number:  $\xi = .7474\dots$  Equation:  $3x^3 + x - 2 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 + 1/2$	0	0.1888	0.3776
2	$-x^2 - 2x + 2$	[2, -2, -1, 1]	$-3/2x^2 + 3/2x$	-2	0.2138	0.4811
3	$4x^2 - 3x$	[1, 3, 0, 1]	$x^2 - x + 1/3$	-2	0.1236	0.1932
4	$-4x^2 + 7x - 3$	[1, -3, -3, 2]	$3/2x^2 - 1/2$	-1	0.1280	0.1932
5	$-13x^2 - 5x + 11$	[1, -6, -3, 1]	$3/2x^2 - 3/2x$	-1	0.1250	0.2329
6	$16x^2 - 24x + 9$	[1, -3, 0, 1]	$x^2 - x + 1/3$	-1	0.06157	0.09760
7	$5x^2 - 80x + 57$	[1, 3, 3, 1]	$-3x^2 + 1$	-1	0.4624	0.6989
8	$-83x^2 - 45x + 80$	[1, -5, 2, 1]	$-3/2x^2$	-1	0.4171	0.9271
9	$99x^2 + 21x - 71$	[1, 0, -1, 1]	$x^2 + 1/2x - 1/6$	-1	0.4543	0.7084
10	$104x^2 - 59x - 14$	[1, 0, 1, 1]	$-x^2$	-1	0.2801	0.3753
11	$-78x^2 - 125x + 137$	[1, -1, 1, 1]	$-3/4x^2 + 3/2x - 1/4$	-1	0.2198	0.4739
12	$125x^2 - 163x + 52$	[1, 1, 1, 1]	$-x$	-1	0.2325	0.3929
13	$260x^2 + 191x - 288$	[1, -2, 0, 1]	$3/2x^2 - 3/2x$	-1	0.2055	0.4635
14	$-213x^2 - 479x + 477$	[1, 1, -1, 1]	$1/2x^2 + x - 5/6$	-1	0.1100	0.2407
15	$479x^2 - 548x + 142$	[1, 3, 2, 1]	$-x$	-1	0.1076	0.1970
16	$266x^2 - 1027x + 619$	[0, 1, 1, 1]	$-3/2x^2 + 1/2$	0	0.1277	0.1826
17	$2336x^2 - 16x - 1293$	[1, -3, 3, 1]	$3/2x^2 - 3/2x$	1	0.1871	0.2444
18	$1277x^2 - 3629x + 1999$	[1, 3, 0, 1]	$-x^2 + x - 1/3$	1	0.06526	0.09314
19	$3443x^2 + 9812x - 9257$	[1, 3, -3, 1]	$3x^2 - 1$	1	0.3224	0.6491
20	$13441x^2 - 11978x + 1444$	[1, 6, 1, 1]	$-3/4x^2 + 3/4x - 1/2$	1	0.2169	0.3916
21	$-19050x^2 - 11275x + 19069$	[1, -2, -1, 1]	$-3/4x^2 + 3/2x - 1/4$	1	0.1974	0.4633
22	$11275x^2 - 25419x + 12700$	[1, 2, 1, 1]	$-x$	1	0.2621	0.3791
23	$-7775x^2 - 36694x + 31769$	[0, 1, 1, 1]	$-3/2x^2 + 1/2$	0	0.1846	0.3312
24	$51541x^2 + 10572x - 36694$	[1, -2, 0, 1]	$3/2x^2$	-1	0.3052	0.4727
25	$59316x^2 + 47266x - 68463$	[0, -1, 1, 1]	$-1/2x^2 - x + 5/6$	0	0.1041	0.2319
26	$47266x^2 - 88235x + 39544$	[1, 2, 1, 1]	$x$	-1	0.1293	0.1923
27	$-12050x^2 - 135501x + 108007$	[0, -1, 1, 1]	$-3/2x^2 + 1/2$	0	0.1030	0.1693
28	$359237x^2 - 247836x - 15444$	[1, 2, 4, 1]	$3/2x^2 - 3/2x + 1$	-1	0.5191	0.7671
29	$371287x^2 - 112335x - 123451$	[0, -1, 1, 1]	$-3/8x^2 - 3/4x + 3/8$	0	0.2191	0.2633
30	$11116x^2 - 494738x + 363565$	[1, 3, 0, 1]	$-x^2 + x - 1/3$	-1	0.05622	0.08661
31	$1068463x^2 + 1011708x - 1353041$	[1, 2, -3, 1]	$3x^2 - 1$	-1	0.2842	0.6203
32	$1057347x^2 + 1506446x - 1716606$	[0, -1, 1, 1]	$-3/4x^2 - 3/4x + 1/2$	0	0.2194	0.4715
33	$1506446x^2 - 2069055x + 704898$	[1, 6, 1, 1]	$x$	-1	0.2382	0.3921
34	$449099x^2 - 3575501x + 2421504$	[0, -1, 1, 1]	$-3/2x^2 + 1/2$	0	0.2404	0.3544
35	$3183157x^2 + 4024600x - 4786253$	[1, 2, 0, 1]	$3/2x^2 - 1/2$	-1	0.1456	0.3129
36	$8770958x^2 - 1170857x - 4024600$	[1, 2, 2, 1]	$-3/2x^2$	-1	0.4096	0.5032
37	$11954115x^2 + 2853743x - 8810853$	[0, 1, 1, 1]	$-1/2x^2 - x + 5/6$	0	0.1472	0.2355
38	$2853743x^2 - 12795558x + 7969410$	[1, -2, 1, 1]	$x$	1	0.1260	0.1812
39	$-9100372x^2 - 15649301x + 16780263$	[0, -1, 1, 1]	$-3/2x^2 + 1/2$	0	0.07324	0.1585
40	$-15347001x^2 - 44094160x + 41529936$	[0, -2, 3, 1]	$-3/2x^2 - 3/2x + 1$	0	0.4850	0.9740

41	$44094160x^2 - 46645603x + 10231334$	$[1, 2, 4, 1]$	$-x$	-1	0.4057	0.78
42	$-53194532x^2 + 30996302x + 6548929$	$[1, 0, -1, 1]$	$3/8x^2 + 3/4x - 3/8$	-1	0.2084	0.28
43	$-24447373x^2 - 59743461x + 58310199$	$[1, 1, 1, 1]$	$x^2 - x + 1/3$	-1	0.03800	0.08
44	$223825343x^2 + 70592176x - 177797121$	$[1, -2, -3, 1]$	$3x^2 - 1$	-1	0.3605	0.62
45	$248272716x^2 + 130335637x - 236107320$	$[0, -1, 1, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.2127	0.46
46	$-130335637x^2 + 318864892x - 165515144$	$[1, -6, -1, 1]$	$-x$	-1	0.2622	0.37
47	$117937079x^2 + 449200529x - 401622464$	$[0, 1, 1, 1]$	$-3/2x^2 + 1/2$	0	0.1759	0.32
48	$720370775x^2 + 331263450x - 650011761$	$[1, 2, 0, 1]$	$-3/2x^2 + 1/2$	1	0.1529	0.30
49	$-1335203029x^2 + 554739050x + 331263450$	$[1, 2, -2, 1]$	$3/2x^2$	1	0.4400	0.54
50	$223475600x^2 + 1666466479x - 1370382536$	$[1, 2, 1, 1]$	$-x^2 + x - 1/3$	1	0.09908	0.16
51	$2279049404x^2 + 1442990879x - 2351657747$	$[1, -1, 1, 1]$	$-3/2x^2 + 1/2$	1	0.06668	0.15
52	$4781574408x^2 + 4552448237x - 6073698030$	$[0, 1, 2, 1]$	$-3/2x^2 - 3/2x + 1$	0	0.4266	0.93
53	$-6831497641x^2 + 6224565287x - 836058525$	$[1, 6, -3, 1]$	$3/4x^2 - 1/2x + 1/4$	-1	0.1593	0.29
54	$7060623812x^2 + 5995439116x - 8425355777$	$[1, 1, 0, 1]$	$-x^2 + x - 1/3$	-1	0.03503	0.07
55	$39397314955x^2 - 2130369392x - 20416234009$	$[1, -3, 2, 1]$	$-3x^2 + 1$	-1	0.5178	0.65
56	$-3865069724x^2 + 44327569375x - 30971959178$	$[1, 6, -1, 1]$	$3/4x^2 - 3/4x + 1/2$	-1	0.2349	0.35
57	$42592869043x^2 + 48192639099x - 59813548964$	$[1, 1, 1, 1]$	$-3/2x^2 + 1/2$	-1	0.1445	0.31
58	$132313192489x^2 + 5599770056x - 78099413581$	$[1, -2, 2, 1]$	$-3/2x^2 + 1/2$	-1	0.2390	0.32
59	$-183305716616x^2 + 129513307461x + 5599770056$	$[1, 2, -2, 1]$	$3/2x^2$	-1	0.3844	0.57
60	$123913537405x^2 + 188905486672x - 210412606070$	$[1, 2, 1, 1]$	$-x^2 + x - 1/3$	-1	0.07322	0.15
61	$439532446510x^2 + 64991949267x - 294111789707$	$[1, -1, 1, 1]$	$-3/2x^2 + 1/2$	-1	0.1080	0.15
62	$1002978430425x^2 + 318889385206x - 798636185484$	$[0, 1, 2, 1]$	$-3/2x^2 - 3/2x + 1$	0	0.5392	0.93
63	$-758421831716x^2 + 1067970379692x - 374540497243$	$[1, 6, -3, 1]$	$3/4x^2 - 1/2x + 1/4$	1	0.1805	0.29
64	$1442510876935x^2 + 383881334473x - 1092747975191$	$[1, 1, 0, 1]$	$-x^2 + x - 1/3$	1	0.04760	0.07
65	$-1733377750451x^2 - 5488517471454x + 5070517704252$	$[1, -4, -4, 1]$	$3x - 2$	1	0.1669	0.32
66	$9339154306829x^2 + 3755139721003x - 8023776323580$	$[1, 7, 0, 1]$	$3/2x^2 - 1/2$	1	0.1634	0.31
67	$-963132428090x^2 + 18582811499286x - 13351042468619$	$[1, -4, -1, 1]$	$1/2 - 3/2x$	1	0.4017	0.61
68	$-21374818792199x^2 + 5584014585826x + 7767027882793$	$[1, -2, 1, 1]$	$3/7x^2 - 6/7x - 1/7$	1	0.2892	0.34
69	$-22337951220289x^2 + 24166826085112x - 5584014585826$	$[0, 1, 1, 1]$	$-3/2x^2$	0	0.3097	0.59
70	$29750840670938x^2 + 16753936634463x - 29141846674992$	$[1, 1, -1, 1]$	$-x^2 + x - 1/3$	-1	0.06785	0.15
71	$-73463610683426x^2 + 12996904036475x + 31324859971959$	$[1, 1, -1, 1]$	$3/2x^2 - 1/2$	-1	0.1398	0.16
72	$9239871438487x^2 + 150684253964840x - 117785374691860$	$[1, 6, 2, 1]$	$-3/2x^2 + 3/2x - 1$	-1	0.4217	0.68
73	$64223739244939x^2 - 163681158001315x + 86460514719901$	$[0, -1, -1, 1]$	$3/8x^2 + 3/4x - 3/8$	0	0.1966	0.28
74	$185917933476277x^2 + 141444382526353x - 209576941310770$	$[1, -2, 1, 1]$	$x^2 - x - 2/3$	-1	0.2757	0.61
75	$-250141672721216x^2 + 22236775474962x + 123116426590869$	$[0, -1, -1, 1]$	$3/4x^2 - 1/4$	0	0.06635	0.08
76	$566993671867318x^2 + 575017401543899x - 746516198624170$	$[1, 0, 3, 1]$	$3x - 2$	-1	0.1432	0.31
77	$1686767969803573x^2 + 8023729676581x - 948275500855984$	$[1, -6, 0, 1]$	$-3/2x^2 + 1/2$	-1	0.2470	0.32
78	$-831348390386915x^2 - 2269809101024053x + 2160905720231565$	$[1, -4, 1, 1]$	$3/2x - 1/2$	-1	0.2778	0.56
79	$3109181221087549x^2 - 1678744240126992x - 482161480104573$	$[1, 2, 1, 1]$	$3/7x^2 - 6/7x - 1/7$	-1	0.2836	0.37
80	$2277832830700634x^2 - 3948553341151045x + 1678744240126992$	$[0, 1, 1, 1]$	$-3/2x^2$	0	0.3833	0.58

Number:  $\xi = .5366\dots$  Equation:  $3x^3 + x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3x - 1$	-1	0.1755	0.5266
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-6/5x^2 + 3/5x - 1/5$	-1	0.1570	0.1962
3	$-2x^2 + 3x - 1$	$[1, -1, 2, 1]$	$-3x^2$	-1	0.3050	0.4745
4	$-4x^2 + 4x - 1$	$[0, 1, 1, 1]$	$-x^2 - x + 2/3$	0	0.08557	0.1765
5	$x^2 - 8x + 4$	$[1, 2, -3, 1]$	$3x^2$	1	0.2956	0.3742
6	$-11x^2 - 9x + 8$	$[1, 3, 3, 1]$	$-3x^2$	1	0.4827	1.061
7	$-5x^2 + 12x - 5$	$[1, -1, 0, 1]$	$-1/3x^2 + 2/3x - 4/9$	1	0.1050	0.1414
8	$-10x^2 - 17x + 12$	$[1, 1, 0, 1]$	$3x^2$	1	0.1819	0.3356
9	$-5x^2 - 29x + 17$	$[0, -1, 1, 1]$	$-x^2 - x + 2/3$	0	0.08355	0.1147
10	$-56x^2 - 24x + 29$	$[1, 3, 3, 1]$	$-3x^2$	1	0.2691	0.3907
11	$-61x^2 - 53x + 46$	$[0, 1, 1, 1]$	$-x^2 - x + 2/3$	0	0.05038	0.1171
12	$199x^2 - 8x - 53$	$[1, 3, -4, 1]$	$3x^2$	-1	0.4631	0.4967
13	$98x^2 - 252x + 107$	$[1, 4, 2, 1]$	$-2x^2 + x - 2/3$	-1	0.5242	0.6980
14	$-260x^2 - 45x + 99$	$[1, -1, 0, 1]$	$-6/5x^2 + 3/5x - 1/5$	-1	0.1248	0.1466
15	$557x^2 - 215x - 45$	$[1, 1, -1, 1]$	$3x^2$	-1	0.4945	0.5714
16	$-125x^2 - 602x + 359$	$[1, 3, 1, 1]$	$-2x^2 + x - 2/3$	-1	0.4078	0.5703
17	$-385x^2 - 647x + 458$	$[1, 0, 1, 1]$	$-9/5x^2 - 3/5x + 1/5$	-1	0.3015	0.5594
18	$817x^2 - 170x - 144$	$[1, 1, -1, 1]$	$3/5x^2 - 3/5x - 1/5$	-1	0.1679	0.1804
19	$1249x^2 - 987x + 170$	$[0, 1, 2, 1]$	$-3x^2$	0	0.3389	0.5568
20	$-1327x^2 - 1079x + 961$	$[1, 1, -1, 1]$	$-2x^2 + x - 2/3$	1	0.2700	0.5902
21	$2066x^2 - 1157x + 26$	$[1, 1, 0, 1]$	$6/5x^2 - 3/5x + 1/5$	1	0.1463	0.1922
22	$1988x^2 - 3223x + 1157$	$[1, 1, 1, 1]$	$-3x^2$	1	0.3076	0.4642
23	$-3549x^2 - 4054x + 3197$	$[1, -3, 2, 1]$	$-2x^2 + x + 1/3$	1	0.1431	0.3418
24	$4054x^2 - 4380x + 1183$	$[1, 1, 0, 1]$	$-x$	1	0.08963	0.1730
25	$505x^2 - 8434x + 4380$	$[0, 1, 1, 1]$	$-3x^2$	0	0.2870	0.3655
26	$12635x^2 + 8939x - 8434$	$[1, -3, 0, 1]$	$3x^2$	-1	0.5564	1.083
27	$4559x^2 - 12814x + 5563$	$[1, 1, 0, 1]$	$-1/3x^2 + 2/3x - 4/9$	-1	0.1046	0.1375
28	$-12130x^2 - 17373x + 12814$	$[1, -1, 0, 1]$	$-3x^2$	-1	0.1660	0.3372
29	$-7571x^2 - 30187x + 18377$	$[0, 1, 1, 1]$	$-x^2 - x + 2/3$	0	0.07909	0.1134
30	$62702x^2 + 22616x - 30187$	$[1, 3, -3, 1]$	$3x^2$	1	0.2947	0.4014
31	$70273x^2 + 52803x - 48564$	$[0, -1, 1, 1]$	$-x^2 - x + 2/3$	0	0.05841	0.1193
32	$215965x^2 - 17470x - 52803$	$[1, 3, 4, 1]$	$-3x^2$	1	0.4765	0.5081
33	$-88136x^2 + 268768x - 118837$	$[1, 4, -2, 1]$	$2x^2 - x + 2/3$	1	0.5210	0.6788
34	$286238x^2 + 35333x - 101367$	$[1, 1, 0, 1]$	$-6/5x^2 + 3/5x - 1/5$	1	0.1321	0.1507
35	$590339x^2 - 250905x - 35333$	$[1, -1, 1, 1]$	$-3x^2$	1	0.4853	0.5747
36	$180239x^2 + 625672x - 387605$	$[1, 3, -1, 1]$	$2x^2 - x + 2/3$	1	0.3848	0.5644
37	$466477x^2 + 661005x - 488972$	$[1, 0, 1, 1]$	$-9/5x^2 - 3/5x + 1/5$	1	0.2749	0.5623
38	$876577x^2 - 215572x - 136700$	$[1, -1, 1, 1]$	$-3/5x^2 + 3/5x + 1/5$	1	0.1688	0.1832
39	$1286677x^2 - 1092149x + 215572$	$[0, -1, 2, 1]$	$-3x^2$	0	0.3142	0.5494
40	$1523293x^2 + 1071105x - 1013277$	$[1, 1, 1, 1]$	$2x^2 - x + 2/3$	1	0.3109	0.6021



41	$2163254x^2 - 1307721x + 78872$	$[1, 1, 0, 1]$	$-6/5x^2 + 3/5x - 1/5$	1	0.1401	0.1915
42	$1926638x^2 - 3470975x + 1307721$	$[1, -1, 1, 1]$	$-3x^2$	1	0.3116	0.4519
43	$4159779x^2 + 4089892x - 3392103$	$[1, 3, -2, 1]$	$2x^2 - x - 1/3$	1	0.1316	0.3464
44	$4089892x^2 - 4778696x + 1386593$	$[1, 1, 0, 1]$	$x$	1	0.09321	0.1693
45	$-69887x^2 - 8868588x + 4778696$	$[0, -1, 1, 1]$	$-3x^2$	0	0.2773	0.3578
46	$4020005x^2 - 13647284x + 6165289$	$[0, -1, 2, 1]$	$-x^2 - x + 2/3$	0	0.1036	0.1337
47	$14475862x^2 + 17667289x - 13647284$	$[1, 4, -1, 1]$	$3x^2$	-1	0.1500	0.3402
48	$10455857x^2 + 31314573x - 19812573$	$[0, -1, 1, 1]$	$-x^2 - x + 2/3$	0	0.07435	0.1124
49	$69893576x^2 + 20858716x - 31314573$	$[1, 3, 4, 1]$	$-3x^2$	-1	0.3199	0.4126
50	$80349433x^2 + 52173289x - 51127146$	$[0, 1, 1, 1]$	$-x^2 - x + 2/3$	0	0.06672	0.1219
51	$-233730871x^2 + 28176144x + 52173289$	$[1, 3, -4, 1]$	$3x^2$	1	0.4876	0.5190
52	$-76170434x^2 + 285904160x - 131476579$	$[1, 4, 2, 1]$	$-2x^2 + x - 2/3$	1	0.5150	0.6605
53	$237909870x^2 + 309901305x - 234777014$	$[1, -1, 1, 1]$	$-6/5x^2 + 3/5x + 4/5$	1	0.4698	1.016
54	$-314080304x^2 - 23997145x + 103300435$	$[0, 1, -1, 1]$	$x^2$	0	0.1389	0.1548
55	$-623981609x^2 + 290083159x + 23997145$	$[1, 2, -1, 1]$	$-3x^2$	-1	0.4736	0.5767
56	$242088869x^2 + 647978754x - 417380739$	$[1, -2, 1, 1]$	$-2x^2 + x - 2/3$	-1	0.3606	0.5605
57	$-556169173x^2 - 671975899x + 520681174$	$[1, 0, -1, 1]$	$9/5x^2 + 3/5x - 1/5$	-1	0.2482	0.5673
58	$-938061913x^2 + 266086014x + 127297580$	$[1, 1, 1, 1]$	$-3/5x^2 + 3/5x + 1/5$	-1	0.1689	0.1856
59	$-1319954653x^2 + 1204147927x - 266086014$	$[0, -1, 2, 1]$	$-3x^2$	0	0.2889	0.5410
60	$1736319955x^2 + 1053868639x - 1065359493$	$[1, -1, -1, 1]$	$-2x^2 + x - 2/3$	-1	0.3529	0.6157
61	$-2258016566x^2 + 1470233941x - 138788434$	$[1, 1, 0, 1]$	$6/5x^2 - 3/5x + 1/5$	-1	0.1334	0.1905
62	$-1841651264x^2 + 3728250507x - 1470233941$	$[1, 1, 1, 1]$	$-3x^2$	-1	0.3141	0.4396
63	$4827067125x^2 + 4099667830x - 3589462073$	$[1, -3, 2, 1]$	$-2x^2 + x + 1/3$	-1	0.1549	0.3522
64	$-4099667830x^2 + 5198484448x - 1609022375$	$[1, 1, 0, 1]$	$-x$	-1	0.09637	0.1655
65	$727399295x^2 + 9298152278x - 5198484448$	$[0, 1, 1, 1]$	$-3x^2$	0	0.2663	0.3511
66	$-3372268535x^2 + 14496636726x - 6807506823$	$[0, 1, 2, 1]$	$-x^2 - x + 2/3$	0	0.1021	0.1302
67	$-17050251934x^2 - 17868905261x + 14496636726$	$[1, -4, -1, 1]$	$3x^2$	-1	0.1340	0.3443
68	$13677983399x^2 + 32365541987x - 21304143549$	$[0, 1, -1, 1]$	$x^2 + x - 2/3$	0	0.06939	0.1118
69	$-77590414046x^2 - 18687558588x + 32365541987$	$[1, 3, 4, 1]$	$3x^2$	1	0.3444	0.4243
70	$-91268397445x^2 - 51053100575x + 53669685536$	$[0, -1, 1, 1]$	$-x^2 - x + 2/3$	0	0.07520	0.1247
71	$252277454053x^2 - 40215296870x - 51053100575$	$[1, -3, -4, 1]$	$3x^2$	1	0.4963	0.5292
72	$61890904280x^2 - 303330554628x + 144938082981$	$[1, 4, 2, 1]$	$-2x^2 + x - 2/3$	1	0.5065	0.6432
73	$-281654947218x^2 - 314168358333x + 249660869092$	$[1, -1, 1, 1]$	$-6/5x^2 + 3/5x + 4/5$	1	0.4218	1.027
74	$-343545851498x^2 - 10837803705x + 104722786111$	$[0, -1, 1, 1]$	$-x^2$	0	0.1452	0.1589
75	$657714209831x^2 - 332708047793x - 10837803705$	$[1, 2, -1, 1]$	$3x^2$	1	0.4597	0.5775
76	$-311032440383x^2 - 668552013536x + 448268637609$	$[1, 2, 1, 1]$	$-2x^2 + x - 2/3$	1	0.3353	0.5586
77	$-654578291881x^2 - 679389817241x + 552991423720$	$[1, 0, 1, 1]$	$-9/5x^2 - 3/5x + 1/5$	1	0.2217	0.5743
78	$1001260061329x^2 - 321870244088x - 115560589816$	$[1, 1, -1, 1]$	$3/5x^2 - 3/5x - 1/5$	1	0.1681	0.1877
79	$1347941830777x^2 - 1323130305417x + 321870244088$	$[0, 1, 2, 1]$	$-3x^2$	0	0.2632	0.5318
80	$-1966870793593x^2 - 1026071586689x + 1116820651145$	$[1, 1, -1, 1]$	$-2x^2 + x - 2/3$	-1	0.3956	0.6307

Number:  $\xi = .7822\dots$  Equation:  $3x^3 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 + 1/3$	0	0.1704	0.3407
2	$-2x^2 - x + 2$	[2, -1, -2, 1]	$-1/2x^2 + 3/2x - 5/6$	-2	0.02319	0.05219
3	$-x^2 - 12x + 10$	[2, 7, 5, 1]	$2 - 3x$	-4	0.2894	0.4923
4	$14x^2 - 2x - 7$	[1, -29, 3, 4]	$6/7x^2 - 3/7x + 2/7$	-1	0.1870	0.2376
5	$10x^2 - 27x + 15$	[1, 2, 1, 1]	$-6/5x^2 + 3/5x - 3/5$	-1	0.6017	0.8699
6	$-29x^2 - 8x + 24$	[1, -2, 0, 1]	$-3/4x^2 + 3/4x - 1/4$	-1	0.08484	0.1494
7	$53x^2 - 21x - 16$	[1, 1, -1, 1]	$x^2 - 1/3$	-1	0.07891	0.09849
8	$19x^2 - 167x + 119$	[1, 7, 4, 1]	$-3/2x^2 + 3/2x - 1/2$	-1	0.1915	0.2912
9	$-260x^2 + 243x - 31$	[1, -4, -1, 1]	$3/2x - 1/2$	-1	0.3125	0.5900
10	$-150x^2 - 279x + 310$	[1, 3, 1, 1]	$3/10x^2 - \frac{9}{10}x - 1/10$	-1	0.2756	0.5634
11	$410x^2 + 36x - 279$	[0, -1, -1, 1]	$x^2$	0	0.2950	0.4339
12	$-560x^2 - 315x + 589$	[0, 1, 2, 1]	$2/3x^2 + x - 5/9$	0	0.3863	0.8459
13	$689x^2 - 374x - 129$	[1, -2, -1, 1]	$3/8x^2 - 3/8x - 3/8$	1	0.2320	0.3085
14	$818x^2 - 1063x + 331$	[0, 1, 2, 1]	$-x^2 + 1/3$	0	0.1538	0.2597
15	$841x^2 + 1040x - 1328$	[1, -2, -1, 1]	$3/4x^2 - 3/4x + 1/4$	-1	0.02933	0.05909
16	$6507x^2 + 597x - 4448$	[1, 3, 4, 1]	$-3x^2 + 1$	-1	0.5883	0.8682
17	$7348x^2 + 1637x - 5776$	[0, 1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.1478	0.2464
18	$9383x^2 - 14895x + 5910$	[2, -14, 3, 1]	$-6/5x^2 + 3/5x - 3/5$	2	0.5252	0.8163
19	$13258x^2 + 11020x - 16731$	[1, 4, -1, 2]	$3/4x^2 - 3/4x + 1/4$	1	0.08099	0.1670
20	$29989x^2 - 2238x - 16597$	[1, 1, 1, 1]	$-x^2 + 1/3$	1	0.07246	0.09506
21	$36533x^2 - 100987x + 56639$	[1, -7, 4, 1]	$-3/2x^2 + 3/2x - 1/2$	1	0.2009	0.2903
22	$169747x^2 - 98919x - 26480$	[1, 4, 1, 1]	$1/2 - 3/2x$	1	0.3821	0.5211
23	$-199906x^2 - 107361x + 206280$	[1, 3, -2, 1]	$-3/10x^2 + \frac{9}{10}x - \frac{9}{10}$	1	0.2142	0.4733
24	$-230065x^2 - 313641x + 386080$	[0, 1, 2, 1]	$-2/3x^2 - x + 5/9$	0	0.4760	0.9592
25	$406186x^2 - 92545x - 176121$	[1, 1, -1, 1]	$3/8x^2 - 3/8x - 3/8$	-1	0.2313	0.2867
26	$582307x^2 - 498731x + 33838$	[0, 1, 2, 1]	$-x^2 + 1/3$	0	0.1324	0.2299
27	$-253850x^2 - 827188x + 802319$	[1, 2, 1, 1]	$-3/4x^2 + 3/4x - 1/4$	1	0.03264	0.06642
28	$3168507x^2 + 1720014x - 3283883$	[1, 3, -4, 1]	$3x^2 - 1$	1	0.4298	0.9478
29	$3422357x^2 + 2547202x - 4086202$	[0, -1, 1, 1]	$-1/2x^2 - 1/2x + 1/2$	0	0.1311	0.2740
30	$7116235x^2 - 7418052x + 1448493$	[2, 14, 3, 1]	$-6/5x^2 + 3/5x - 3/5$	2	0.3736	0.7317
31	$4870850x^2 + 9663437x - 10538592$	[1, 4, -1, 2]	$3/4x^2 - 3/4x + 1/4$	1	0.09217	0.1894
32	$15409442x^2 + 4792587x - 13176301$	[1, 1, 1, 1]	$-x^2 + 1/3$	1	0.05488	0.1003
33	$51099176x^2 + 24041198x - 50067495$	[0, 1, 3, 1]	$-3/2x^2 - 3/2x + 3/2$	0	0.3566	0.7779
34	$34658053x^2 - 55891763x + 22513433$	[1, -7, 4, 1]	$-1/5x^2 + 3/5x + 1/15$	-1	0.1765	0.2730
35	$101166671x^2 - 27057978x - 40730363$	[1, 1, 1, 1]	$1/2 - 3/2x$	-1	0.3893	0.4802
36	$82949741x^2 + 108766746x - 135824724$	[1, -2, 1, 1]	$3/10x^2 - \frac{9}{10}x + \frac{9}{10}$	-1	0.2663	0.5365
37	$218774465x^2 + 25817005x - 154041654$	[1, 1, 1, 1]	$-x^2 + 1/3$	-1	0.1924	0.2905
38	$372816119x^2 - 192957460x - 77164223$	[1, -2, 2, 1]	$-x^2 + 1/3$	-1	0.1556	0.2040
39	$-6359102x^2 + 572132681x - 443621240$	[1, 3, -2, 1]	$3/4x^2 - 3/4x + 1/4$	-1	0.04479	0.07172
40	$1311786414x^2 + 1735475349x - 2160019283$	[1, 3, 4, 1]	$-3x^2 + 1$	-1	0.5333	1.074

41	$1729116247x^2 - 2462410878x + 868165174$	$[1, -7, 1, 1]$	$-1/2x^2 + 1/2x - 1/2$	-1	0.2875
42	$1305427312x^2 + 2307608030x - 2603640523$	$[1, 1, 0, 1]$	$6/7x^2 - 3/7x + 2/7$	-1	0.1527
43	$4770018908x^2 - 3189346407x - 423688935$	$[1, 2, 0, 1]$	$-6/5x^2 + 3/5x - 3/5$	-1	0.4431
44	$-6075446220x^2 + 881738377x + 3027329458$	$[0, -1, -1, 1]$	$1/4x^2 + 3/4x - \frac{7}{12}$	0	0.1123
45	$-881738377x^2 - 7077626938x + 6075446220$	$[1, -2, 0, 1]$	$-x$	-1	0.1192
46	$-6957184597x^2 - 6195888561x + 9102775678$	$[0, 1, 1, 1]$	$-x^2 + 1/3$	0	0.05492
47	$26426588657x^2 - 27949180729x + 5693331893$	$[1, -4, 3, 1]$	$3/2x^2 - 3/2x + 1/2$	1	0.1266
48	$-55137065422x^2 - 3912000453x + 36793217039$	$[1, 4, -1, 1]$	$3/2x - 1/2$	1	0.3316
49	$-81563654079x^2 + 24037180276x + 31099885146$	$[0, -1, 1, 1]$	$-\frac{9}{10}x^2 - 3/10x + 3/10$	0	0.3522
50	$24037180276x^2 + 85475654532x - 81563654079$	$[1, -3, -2, 1]$	$x$	1	0.3025
51	$105600834355x^2 + 61438474256x - 112663539225$	$[0, -1, 1, 1]$	$-x^2 + 1/3$	0	0.1464
52	$-218264373580x^2 + 44162360099x + 98992987331$	$[1, 2, 0, 1]$	$x^2 - 1/3$	1	0.1530
53	$-95689063819x^2 + 358115797498x - 221568297092$	$[1, 3, 2, 1]$	$-3/4x^2 + 3/4x - 1/4$	1	0.05033
54	$1265725520132x^2 - 1189558358634x + 156069402727$	$[1, -4, -3, 1]$	$3x - 2$	1	0.2179
55	$281948636000x^2 + 1719530381449x - 1517483986678$	$[1, 8, 1, 1]$	$6/7x^2 - 3/7x + 2/7$	1	0.1910
56	$-2909088740083x^2 + 1017702133317x + 983776884132$	$[1, -2, -1, 1]$	$6/5x^2 - 3/5x + 3/5$	1	0.4727
57	$-3191037376083x^2 - 701828248132x + 2501260870810$	$[0, -1, 1, 1]$	$-1/4x^2 - 3/4x + \frac{7}{12}$	0	0.08888
58	$701828248132x^2 - 4628619121532x + 3191037376083$	$[1, -2, 0, 1]$	$-x$	1	0.1463
59	$-2489209127951x^2 - 5330447369664x + 5692298246893$	$[0, 1, 1, 1]$	$-x^2 + 1/3$	0	0.06160
60	$-17778722988811x^2 + 12096246505385x + 1415708239123$	$[1, 4, -3, 1]$	$-3/2x^2 + 3/2x - 1/2$	-1	0.1469
61	$-27033731252483x^2 - 13854162094803x + 27375938602778$	$[1, 4, 1, 1]$	$1/2 - 3/2x$	-1	0.2345
62	$-44812454241294x^2 - 1757915589418x + 28791646841901$	$[0, 1, 1, 1]$	$-\frac{9}{10}x^2 - 3/10x + 3/10$	0	0.3049
63	$-1757915589418x^2 + 58666616336097x - 44812454241294$	$[1, 3, -2, 1]$	$x$	1	0.4088
64	$43054538651876x^2 + 60424531925515x - 73604101083195$	$[0, -1, 1, 1]$	$-x^2 + 1/3$	0	0.1792
65	$-116658639735071x^2 - 17369993273639x + 84959232286580$	$[1, 2, 0, 1]$	$x^2 - 1/3$	1	0.1253
66	$-105911579103932x^2 + 205200225565364x - 95706292917719$	$[1, 3, 2, 1]$	$-3/4x^2 + 3/4x - 1/4$	1	0.04740
67	$827423834903956x^2 - 485696171676021x - 126322151476358$	$[1, -4, -3, 1]$	$3x - 2$	1	0.2671
68	$-136527437662571x^2 + 1138535639573252x - 807013262531530$	$[1, 8, 1, 1]$	$6/7x^2 - 3/7x + 2/7$	1	0.2401
69	$-1624231811249273x^2 + 38056929344154x + 963951272566527$	$[1, -2, -1, 1]$	$6/5x^2 - 3/5x + 3/5$	1	0.4227
70	$-1487704373586702x^2 - 1100478710229098x + 1770964535098057$	$[0, -1, 1, 1]$	$-1/4x^2 - 3/4x + \frac{7}{12}$	0	0.07852
71	$1100478710229098x^2 - 2762767450822525x + 1487704373586702$	$[1, -2, 0, 1]$	$-x$	1	0.1495
72	$-387225663357604x^2 - 3863246161051623x + 3258668908684759$	$[0, 1, 1, 1]$	$-x^2 + 1/3$	0	0.08139
73	$-10876485436283375x^2 + 3924444440895337x + 3584696292198649$	$[1, 4, -3, 1]$	$-3/2x^2 + 3/2x - 1/2$	-1	0.1577
74	$-11324909379484693x^2 - 14291307654133680x + 18107076300524387$	$[1, 4, 1, 1]$	$1/2 - 3/2x$	-1	0.2943
75	$22201394815768068x^2 + 10366863213238343x - 21691772592723036$	$[0, -1, -1, 1]$	$\frac{9}{10}x^2 + 3/10x - 3/10$	0	0.2147
76	$-10366863213238343x^2 + 36492702469901748x - 22201394815768068$	$[1, 3, -2, 1]$	$-x$	-1	0.4537
77	$-43893167408491104x^2 + 11834531602529725x + 17597454077479355$	$[1, -1, 1, 1]$	$1/3x^2 - x + 2/9$	-1	0.2337
78	$11834531602529725x^2 + 46859565683140091x - 43893167408491104$	$[1, 1, 0, 1]$	$x$	-1	0.2083
79	$55727699011020829x^2 + 35025034080610366x - 61490621485970459$	$[0, -1, 1, 1]$	$-x^2 + 1/3$	0	0.09989
80	$-86318666427690826x^2 + 107021331358101289x - 30899654069300462$	$[1, 2, 1, 1]$	$3/4x^2 - 3/4x + 1/4$	-1	0.03698

Number:  $\xi = .4023\dots$  Equation:  $3x^3 + 2x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - 2x + 1$	$[1, -2, -1, 1]$	$3x - 1$	-1	0.1340	0.2010
2	$-5x^2 + 2x$	$[2, -5, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	-2	0.1167	0.1353
3	$-10x^2 + 9x - 2$	$[1, -4, 5, 2]$	$-3x^2$	-1	0.2266	0.4192
4	$-11x^2 - 8x + 5$	$[1, 6, -2, 1]$	$x^2 - x + 2/3$	-1	0.1169	0.2028
5	$-25x^2 + 20x - 4$	$[1, 2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	-1	0.08410	0.1401
6	$-38x^2 + 65x - 20$	$[1, -2, 2, 1]$	$-3x^2$	-1	0.2760	0.3965
7	$-47x^2 - 83x + 41$	$[1, 6, -3, 1]$	$x^2 - x - 1/3$	-1	0.2583	0.4041
8	$-85x^2 - 18x + 21$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2012	0.2225
9	$-132x^2 - 101x + 62$	$[0, 1, 2, 1]$	$-3/2x^2 - 3/2x + 1/2$	0	0.1680	0.3034
10	$-101x^2 + 150x - 44$	$[1, 2, 0, 1]$	$x$	-1	0.08729	0.1344
11	$-70x^2 + 401x - 150$	$[0, -1, 2, 1]$	$-3x^2$	0	0.3029	0.3545
12	$-481x^2 - 321x + 207$	$[1, 3, 0, 1]$	$x^2 - x - 1/3$	-1	0.2501	0.4078
13	$-551x^2 + 80x + 57$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2438	0.2515
14	$-241x^2 + 952x - 344$	$[1, 2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.1014	0.1211
15	$-550x^2 - 2145x + 952$	$[1, 1, -2, 1]$	$3x^2$	1	0.2499	0.3156
16	$-3097x^2 + 1502x - 103$	$[1, 6, 2, 1]$	$-x^2 + x - 2/3$	1	0.2220	0.2745
17	$859x^2 + 5242x - 2248$	$[1, -2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.08862	0.1073
18	$-8462x^2 - 9625x + 5242$	$[1, 2, -2, 1]$	$3x^2$	1	0.1451	0.3002
19	$-14867x^2 + 13704x - 3107$	$[1, 6, 2, 1]$	$-x^2 + x - 2/3$	1	0.1475	0.2793
20	$17783x^2 + 24492x - 12732$	$[1, -2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.05578	0.1003
21	$-73762x^2 - 31201x + 24492$	$[1, 2, -2, 1]$	$3x^2$	1	0.2457	0.3167
22	$-55693x^2 + 98254x - 30515$	$[1, 6, 2, 1]$	$-x^2 + x - 2/3$	1	0.1858	0.2634
23	$165307x^2 + 86894x - 61716$	$[1, -2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.07326	0.1037
24	$-515762x^2 - 8481x + 86894$	$[1, 2, -2, 1]$	$3x^2$	1	0.3463	0.3562
25	$-95375x^2 + 602656x - 227023$	$[1, 6, 2, 1]$	$-x^2 + x - 2/3$	1	0.2015	0.2351
26	$1101456x^2 + 706512x - 462527$	$[1, -2, 1, 1]$	$-3/2x^2 + 3/2x + 1/2$	1	0.5793	0.9199
27	$1196831x^2 + 103856x - 235504$	$[0, -1, 1, 1]$	$-x^2$	0	0.1107	0.1158
28	$-3100174x^2 + 989119x + 103856$	$[1, 4, -2, 1]$	$3x^2$	1	0.3607	0.3979
29	$885263x^2 + 3204030x - 1432335$	$[1, 5, 2, 1]$	$-x^2 + x - 2/3$	1	0.1642	0.2096
30	$6067531x^2 + 5522797x - 3204030$	$[1, -1, 2, 1]$	$-3x^2$	1	0.2860	0.6026
31	$-7397179x^2 + 1874382x + 443216$	$[1, 2, -1, 1]$	$1/2x^2 - 1/2x - 1/6$	1	0.1219	0.1302
32	$13020325x^2 + 14249624x - 7840395$	$[1, 2, 0, 1]$	$3x - 1$	1	0.09365	0.2002
33	$-39645191x^2 + 24166268x - 3305548$	$[2, 7, 0, 1]$	$3/2x^2 - 3/2x + 1/2$	2	0.1010	0.1392
34	$69373738x^2 - 87977727x + 24166268$	$[1, -4, -5, 2]$	$3x^2$	1	0.2415	0.4099
35	$112143995x^2 + 45207470x - 36339643$	$[1, -6, -2, 1]$	$x^2 - x + 2/3$	1	0.1672	0.2120
36	$154914252x^2 + 178392667x - 96845554$	$[0, -1, 2, 1]$	$-3/2x^2 - 3/2x + 1/2$	0	0.1465	0.3002
37	$-178392667x^2 + 200121722x - 51638084$	$[1, -2, 0, 1]$	$-x$	1	0.07419	0.1381
38	$-201871082x^2 + 578636111x - 200121722$	$[0, 1, 2, 1]$	$-3x^2$	0	0.3012	0.3739
39	$576886751x^2 + 580385471x - 326876305$	$[1, 3, 0, 1]$	$-x^2 + x + 1/3$	-1	0.1739	0.4008
40	$-778757833x^2 - 1749360x + 126754583$	$[0, 1, -1, 1]$	$3/2x^2 + 1/2$	0	0.2325	0.2387

41	$1355644584x^2 + 582134831x - 453630888$	$[0, -1, 2, 1]$	$3/2x^2 + 3/2x - 1/2$	0	0.2440
42	$-582134831x^2 + 1357393944x - 451881528$	$[1, 2, 0, 1]$	$-x$	-1	0.09841
43	$191374922x^2 + 3296922719x - 1357393944$	$[0, 1, 2, 1]$	$-3x^2$	0	0.2819
44	$-4654316663x^2 + 1548768866x + 130253303$	$[1, -2, 2, 1]$	$x^2 - x + 2/3$	1	0.2395
45	$-199384987x^2 + 7951239382x - 3166669416$	$[1, 2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.09736
46	$9101238274x^2 + 16101863751x - 7951239382$	$[1, -2, 2, 1]$	$-3x^2$	1	0.1939
47	$-24053103133x^2 + 17052477656x - 2967284429$	$[1, 6, -2, 1]$	$x^2 - x + 2/3$	1	0.1844
48	$18003091561x^2 + 40154966884x - 19069148180$	$[1, 2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.07159
49	$93213627662x^2 + 62306842207x - 40154966884$	$[1, -2, 2, 1]$	$-3x^2$	1	0.1873
50	$-102461809091x^2 + 133368594546x - 37072239741$	$[1, 6, -2, 1]$	$x^2 - x + 2/3$	1	0.1634
51	$204430346885x^2 + 164768651298x - 99379081948$	$[1, 2, 0, 1]$	$-3/2x^2 + 3/2x - 1/2$	1	0.05350
52	$706997939614x^2 + 125106955711x - 164768651298$	$[1, -2, 2, 1]$	$-3x^2$	1	0.3107
53	$-289875607009x^2 + 871766590912x - 303809428833$	$[1, 6, -2, 1]$	$x^2 - x + 2/3$	1	0.2014
54	$1328550619104x^2 + 1286749153632x - 732725813377$	$[1, 2, 1, 1]$	$-3/2x^2 + 3/2x + 1/2$	1	0.4025
55	$1618426226113x^2 + 414982562720x - 428916384544$	$[0, -1, 1, 1]$	$-x^2$	0	0.09668
56	$4523601605858x^2 - 788461100673x - 414982562720$	$[1, -4, 2, 1]$	$-3x^2$	1	0.3668
57	$373478537953x^2 + 4938584168578x - 2047342610657$	$[1, 5, -2, 1]$	$x^2 - x + 2/3$	1	0.1863
58	$6888984907877x^2 + 9503689799203x - 4938584168578$	$[1, 1, 2, 1]$	$-3x^2$	1	0.3350
59	$10665629437829x^2 - 1161939638626x - 1258881509984$	$[1, -2, 1, 1]$	$-1/2x^2 + 1/2x + 1/6$	1	0.1211
60	$14151448353707x^2 + 23945963766984x - 11924510947813$	$[1, 2, 0, 1]$	$1 - 3x$	1	0.1263
61	$-60881436249049x^2 + 27140957068788x - 1064997767268$	$[2, -7, 0, 1]$	$3/2x^2 - 3/2x + 1/2$	2	0.1137
62	$-118567879196294x^2 + 115163350386625x - 27140957068788$	$[1, 4, 5, 2]$	$-3x^2$	1	0.2095
63	$142304307455413x^2 + 91426922127506x - 59816438481781$	$[1, -6, 2, 1]$	$-x^2 + x - 2/3$	1	0.1286
64	$-298017194641637x^2 + 257467657842038x - 55346911904844$	$[1, 2, 0, 1]$	$3/2x^2 - 3/2x + 1/2$	1	0.07857
65	$-429993653568742x^2 + 812952510325713x - 257467657842038$	$[1, 2, 2, 1]$	$-3x^2$	1	0.2839
66	$640426514599009x^2 + 985478506052417x - 500137940578831$	$[1, -6, 3, 1]$	$-x^2 + x + 1/3$	1	0.2394
67	$1070420168167751x^2 + 172525995726704x - 242670282736793$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2098
68	$1710846682766760x^2 + 1158004501779121x - 742808223315624$	$[0, -1, 2, 1]$	$-3/2x^2 - 3/2x + 1/2$	0	0.1856
69	$-1158004501779121x^2 + 1883372678493464x - 570282227588920$	$[1, 2, 0, 1]$	$-x$	-1	0.09047
70	$-605162320791482x^2 + 4924749858766049x - 1883372678493464$	$[0, 1, 2, 1]$	$-3x^2$	0	0.3004
71	$6202960216468031x^2 + 3646539501064067x - 2471094952683665$	$[1, 3, 0, 1]$	$-x^2 + x + 1/3$	1	0.2734
72	$6808122537259513x^2 - 1278210357701982x - 587722274190201$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2447
73	$-2368329143362085x^2 + 11732872396025562x - 4337027584575848$	$[1, 2, 0, 1]$	$3/2x^2 - 3/2x + 1/2$	1	0.1012
74	$8274424467003374x^2 + 25834073935413209x - 11732872396025562$	$[1, 1, 2, 1]$	$-3x^2$	1	0.2383
75	$37566946331438771x^2 - 20007296863028936x + 1968698441213763$	$[1, -6, 2, 1]$	$-x^2 + x - 2/3$	1	0.2148
76	$14180519790644663x^2 + 63401020266851980x - 27802772376626972$	$[1, 2, 0, 1]$	$3/2x^2 - 3/2x + 1/2$	1	0.08523
77	$111769356711170242x^2 + 112621520743059297x - 63401020266851980$	$[1, 2, 2, 1]$	$-3x^2$	1	0.1306
78	$176022541009911277x^2 - 175170376978022222x + 41983292167271635$	$[1, -6, 2, 1]$	$-x^2 + x - 2/3$	1	0.1360
79	$237719233212985147x^2 + 288644061752970574x - 154604812910330932$	$[1, 2, 0, 1]$	$3/2x^2 - 3/2x + 1/2$	1	0.05093
80	$939252905156963090x^2 + 339568890292956001x - 288644061752970574$	$[1, 2, 2, 1]$	$-3x^2$	1	0.2619

Number:  $\xi = .5233\dots$  Equation:  $3x^3 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3/4x^2 + 3/2x - 1/4$	-1	0.2028	0.6084
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-\frac{9}{11}x^2 + \frac{6}{11}x - 2/11$	-1	0.09770	0.1221
3	$-2x^2 + 3x - 1$	$[1, -1, 2, 1]$	$-3/2x^2 - 1/2$	-1	0.2002	0.3114
4	$-4x^2 + 4x - 1$	$[0, 1, 1, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.03485	0.07188
5	$-16x^2 - 5x + 7$	$[2, 12, -5, 1]$	$1 - 3x$	2	0.3178	0.4097
6	$20x^2 + x - 6$	$[0, -1, -1, 1]$	$\frac{9}{8}x^2 + 3/8x + 1/4$	0	0.3746	0.4093
7	$-13x^2 + 24x - 9$	$[1, 10, -1, 2]$	$3/8x^2 - 3/4x - 1/8$	1	0.2238	0.3209
8	$-36x^2 - 6x + 13$	$[1, -1, 0, 1]$	$-3/2x$	1	0.3952	0.4578
9	$43x^2 + 31x - 28$	$[1, 1, -1, 1]$	$x^2 + x$	1	0.4495	0.8738
10	$-49x^2 + 18x + 4$	$[1, 1, 0, 1]$	$3/8x^2 - 3/8x - 1/4$	1	0.2005	0.2289
11	$-55x^2 + 67x - 20$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2$	0	0.3415	0.6021
12	$-79x^2 - 37x + 41$	$[1, -1, 0, 1]$	$3/4x^2 - 3/4x + 1$	-1	0.3860	0.5746
13	$-104x^2 + 85x - 16$	$[1, 1, 0, 1]$	$-\frac{9}{11}x^2 + \frac{6}{11}x - 2/11$	-1	0.08057	0.1363
14	$-80x^2 + 189x - 77$	$[1, -1, 1, 1]$	$-3/2x^2 - 1/2$	-1	0.2424	0.3260
15	$-184x^2 + 274x - 93$	$[0, 1, 1, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.04987	0.07811
16	$-1006x^2 + x + 275$	$[2, 12, -5, 1]$	$1 - 3x$	2	0.3832	0.4118
17	$733x^2 + 1189x - 823$	$[1, 8, -3, 2]$	$3/8x^2 + \frac{9}{8}x - 1/4$	1	0.2363	0.4393
18	$-457x^2 + 1464x - 641$	$[1, 1, 1, 1]$	$-3/7x^2 - 6/7x - 1/7$	1	0.2539	0.3274
19	$-2196x^2 + 276x + 457$	$[1, -1, 1, 1]$	$-3/2x$	1	0.4485	0.4750
20	$2472x^2 + 2377x - 1921$	$[1, 1, -1, 1]$	$x - 1$	1	0.2709	0.6850
21	$-2653x^2 + 1740x - 184$	$[1, 1, 0, 1]$	$3/4x^2 - 1/4x + 1/2$	1	0.1793	0.2573
22	$-2377x^2 + 4393x - 1648$	$[1, 1, 1, 1]$	$-3/2x^2 - 1/2$	1	0.4478	0.6419
23	$2748x^2 + 5030x - 3385$	$[1, -1, 1, 1]$	$-3/4x^2 + 3/4x$	1	0.1098	0.1923
24	$-5030x^2 + 6133x - 1832$	$[1, 1, 0, 1]$	$-x$	1	0.08545	0.1505
25	$-2282x^2 + 11163x - 5217$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2578	0.3249
26	$-7312x^2 + 17296x - 7049$	$[0, 1, 2, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.06061	0.08150
27	$-58411x^2 - 50005x + 42167$	$[3, -15, 2, 1]$	$3x^2 - 3x + 1$	3	0.1739	0.3920
28	$-8101x^2 + 83808x - 41641$	$[1, 11, -1, 3]$	$3/7x^2 + 6/7x + 1/7$	1	0.2538	0.3188
29	$125712x^2 - 50310x - 8101$	$[1, -2, -2, 1]$	$3/2x$	1	0.4483	0.5219
30	$-50310x^2 - 133813x + 83808$	$[1, -1, 0, 1]$	$x$	1	0.2658	0.4076
31	$-133813x^2 + 134118x - 33540$	$[1, -1, 0, 1]$	$x$	1	0.1397	0.2876
32	$226332x^2 + 217316x - 175717$	$[1, -2, 0, 1]$	$-3/4x^2 + 3/2x - 3/4$	1	0.06782	0.1712
33	$217316x^2 - 402049x + 150888$	$[1, -2, 0, 1]$	$x$	1	0.1120	0.1605
34	$-9016x^2 - 619365x + 326605$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.2421	0.3094
35	$208300x^2 - 1021414x + 477493$	$[0, -1, 2, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.06446	0.08123
36	$3272542x^2 - 1828993x + 60893$	$[2, 7, 9, 1]$	$1 - 3x$	-2	0.3772	0.4951
37	$3480842x^2 - 2850407x + 538386$	$[0, 1, 1, 1]$	$-\frac{9}{8}x^2 - 3/8x - 1/4$	0	0.3219	0.5454
38	$-4080121x^2 - 1651849x + 1981935$	$[1, 8, -3, 2]$	$-3/8x^2 + 3/4x - \frac{7}{8}$	1	0.2588	0.3623
39	$-599279x^2 - 4502256x + 2520321$	$[0, 1, 1, 1]$	$-3/7x^2 - 6/7x - 1/7$	0	0.2234	0.2973
40	$-4679400x^2 - 6154105x + 4502256$	$[0, 1, 2, 1]$	$-3/2x^2$	0	0.1715	0.3624

41	$6154105x^2 - 9181656x + 3119600$	$[1, 2, 1, 1]$	$-x$	1	0.1997	0.3125
42	$1474705x^2 - 15335761x + 7621856$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.5075	0.6376
43	$-16112184x^2 - 7628810x + 8405233$	$[1, 2, -1, 1]$	$-3/4x^2 + 3/4x$	-1	0.1048	0.1568
44	$7628810x^2 - 24517417x + 10741456$	$[1, 1, 0, 1]$	$-x$	-1	0.1270	0.1637
45	$-8483374x^2 - 32146227x + 19146689$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.1989	0.2833
46	$-854564x^2 - 56663644x + 29888145$	$[0, 1, 2, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.06050	0.07735
47	$92228127x^2 + 168281804x - 113327288$	$[1, -8, -5, 1]$	$3x^2$	-1	0.4384	0.7690
48	$169136368x^2 - 148891771x + 31597273$	$[1, 8, 2, 1]$	$-3/4x^2 + 1/2x - 3/4$	-1	0.3073	0.5561
49	$168281804x^2 - 205555415x + 61485418$	$[1, 0, 1, 1]$	$-\frac{9}{8}x^2 - 3/8x - 1/4$	-1	0.3423	0.6024
50	$93082691x^2 + 224945448x - 143215433$	$[1, 1, -1, 1]$	$3/8x^2 - 3/4x - 1/8$	-1	0.1701	0.2681
51	$354447186x^2 + 244335481x - 224945448$	$[0, 1, 2, 1]$	$-3/2x^2$	0	0.1735	0.3257
52	$244335481x^2 - 579392634x + 236298124$	$[1, 1, -1, 1]$	$x$	1	0.2426	0.3260
53	$801977063x^2 + 713616410x - 593106329$	$[1, 2, 0, 1]$	$3/4x^2 - 3/2x - 1/4$	1	0.3855	0.9017
54	$-936200839x^2 + 689504339x - 104435367$	$[1, -2, -1, 1]$	$-1/2 - 3/4x$	1	0.4689	0.7291
55	$1046312544x^2 + 134223776x - 356808205$	$[1, 1, 0, 1]$	$3/11x^2 + \frac{9}{11}x - 3/11$	1	0.1348	0.1527
56	$-134223776x^2 + 1403120749x - 697541696$	$[1, 1, 0, 1]$	$-x$	1	0.1269	0.1594
57	$-912088768x^2 - 1537344525x + 1054349901$	$[0, -1, -1, 1]$	$3/2x^2 + 1/2$	0	0.1387	0.2528
58	$777864992x^2 + 2940465274x - 1751891597$	$[0, 1, 2, 1]$	$3/4x^2 + 3/4x - 1/2$	0	0.04969	0.07080
59	$-7589269767x^2 - 7265665838x + 5880930548$	$[1, -7, -5, 1]$	$3x^2$	-1	0.2720	0.6845
60	$-8367134759x^2 - 10206131112x + 7632822145$	$[0, -1, 1, 1]$	$-3/4x^2 - 1/2x + 1/4$	0	0.1068	0.2382
61	$23999935356x^2 + 6942061909x - 10206131112$	$[1, -7, -4, 1]$	$3/2x^2$	-1	0.2425	0.3067
62	$6942061909x^2 - 34206066468x + 15999956904$	$[1, 4, 2, 1]$	$x$	-1	0.2578	0.3249
63	$-17057873447x^2 - 41148128377x + 26206088016$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.3398	0.5361
64	$-46251193933x^2 + 51263939915x - 14160960551$	$[1, -1, -2, 1]$	$-3/4x^2 + 3/4x - 1$	-1	0.4288	0.8105
65	$63309067380x^2 - 10115811538x - 12045127465$	$[0, -1, -1, 1]$	$3/11x^2 + \frac{9}{11}x - 3/11$	0	0.1505	0.1598
66	$-73424878918x^2 - 65238383307x + 54251172385$	$[1, 2, 1, 1]$	$x - 1$	-1	0.09650	0.2254
67	$-83540690456x^2 - 140592578152x + 96457217305$	$[0, 1, 2, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.03464	0.06318
68	$-539993723283x^2 - 254696353544x + 281185156304$	$[1, -2, 5, 1]$	$-3x^2$	1	0.4199	0.6271
69	$-623534413739x^2 - 395288931696x + 377642373609$	$[0, 1, 1, 1]$	$-3/4x^2 - 1/2x + 1/4$	0	0.1215	0.2150
70	$1501765181022x^2 - 30601016195x - 395288931696$	$[1, 7, -4, 1]$	$3/2x^2$	-1	0.2896	0.3098
71	$-1532366197217x^2 - 1866453096523x + 1396465719044$	$[1, 4, 1, 1]$	$x - 1$	-1	0.2132	0.4763
72	$-2064097562371x^2 + 3429420309935x - 1229422269391$	$[1, -3, -2, 1]$	$-3/4x^2 + 3/4x - 1$	-1	0.5852	0.8724
73	$-3596463759588x^2 + 1562967213412x + 167043449653$	$[0, 1, 1, 1]$	$-3/11x^2 - \frac{9}{11}x + 3/11$	0	0.1481	0.1764
74	$-1562967213412x^2 - 3763507209241x + 2397642506392$	$[1, 2, 0, 1]$	$-x$	1	0.08489	0.1340
75	$-5159430973000x^2 - 2200539995829x + 2564685956045$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2$	0	0.1453	0.2077
76	$-6722398186412x^2 - 5964047205070x + 4962328462437$	$[0, 1, 2, 1]$	$-3/4x^2 - 3/4x + 1/2$	0	0.02415	0.05633
77	$-35054179946547x^2 - 4447345242386x + 11928094410140$	$[1, 7, 5, 1]$	$-3x^2$	1	0.5396	0.6108
78	$11169743428798x^2 - 41018227151617x + 18407124835261$	$[1, 8, -2, 1]$	$3/4x^2 - 1/2x + 3/4$	1	0.5126	0.6538
79	$-41776578132959x^2 - 10411392447456x + 16890422872577$	$[1, 1, 0, 1]$	$-3/4x^2 + 3/4x - 1/2$	1	0.1664	0.2039
80	$-88000501508304x^2 + 26159489461775x + 10411392447456$	$[1, -1, 1, 1]$	$-3/2x^2$	1	0.3033	0.3343

Number:  $\xi = .3050\dots$  Equation:  $3x^3 + 3x - 1 = 0$ . “All” optimal polynomials.

1	$-x^2 - 3x + 1$	$[1, -3, -1, 1]$	$3x - 1$	-1	0.07123	0.08706
2	$-6x^2 - 8x + 3$	$[1, -3, 3, 1]$	$-3x^2$	-1	0.1413	0.2407
3	$8x^2 - 9x + 2$	$[1, 11, -3, 1]$	$-x$	-1	0.05455	0.1003
4	$-27x^2 - 18x + 8$	$[1, 3, -1, 1]$	$3x$	-1	0.4492	0.6882
5	$-35x^2 - 9x + 6$	$[0, -1, 1, 1]$	$-x^2$	0	0.07020	0.07690
6	$123x^2 - 8x - 9$	$[1, 6, -3, 1]$	$3x^2$	-1	0.2419	0.2442
7	$-131x^2 - 124x + 50$	$[1, 10, 2, 1]$	$x - 1$	-1	0.1907	0.3894
8	$-8x^2 - 132x + 41$	$[0, 1, 1, 1]$	$-3/5x^2 - 3/5x - 1/5$	0	0.08496	0.09347
9	$-388x^2 + 279x - 49$	$[1, -5, -2, 1]$	$3x - 1$	1	0.06246	0.09576
10	$-837x^2 - 1017x + 388$	$[3, 7, 1, 1]$	$-3x$	3	0.3926	0.7157
11	$-1225x^2 - 738x + 339$	$[0, 1, 1, 1]$	$-x^2$	0	0.05298	0.07627
12	$-4692x^2 - 989x + 738$	$[1, 19, 8, 3]$	$-3x^2$	-1	0.2169	0.2319
13	$989x^2 - 5430x + 1564$	$[1, 10, -3, 1]$	$-x$	-1	0.08858	0.09887
14	$-16290x^2 + 1725x + 989$	$[1, 3, -1, 1]$	$3x$	-1	0.7294	0.7403
15	$-17279x^2 + 7155x - 575$	$[0, -1, 1, 1]$	$-x^2$	0	0.07632	0.08950
16	$-38744x^2 - 42957x + 16704$	$[3, 8, 2, 1]$	$1 - 3x$	-3	0.04014	0.07886
17	$-166344x^2 - 90127x + 42957$	$[1, 10, 8, 3]$	$-3x^2$	-1	0.1679	0.2284
18	$-90127x^2 + 209301x - 55448$	$[1, -11, 3, 1]$	$x$	-1	0.08109	0.1018
19	$-613993x^2 - 612766x + 243980$	$[1, 4, -1, 1]$	$3x^2 - 3x + 1$	-1	0.2541	0.5473
20	$718030x^2 - 105264x - 34679$	$[1, -3, -1, 1]$	$3/7x^2 - 3/7x - 1/7$	-1	0.08120	0.08314
21	$1033822x^2 + 2152863x - 752709$	$[1, -3, -1, 1]$	$1 - 3x$	-1	0.06212	0.08404
22	$5359593x^2 + 5424767x - 2152863$	$[1, 4, 3, 1]$	$-3x^2$	-1	0.1100	0.2348
23	$5424767x^2 - 7512456x + 1786531$	$[1, -11, 3, 1]$	$x$	-1	0.06436	0.1016
24	$22537368x^2 + 10914708x - 5424767$	$[1, 3, 1, 1]$	$-3x$	-1	0.5300	0.6850
25	$27962135x^2 + 3402252x - 3638236$	$[0, 1, 1, 1]$	$-x^2$	0	0.07588	0.07828
26	$-94801113x^2 + 17755379x + 3402252$	$[1, -6, -3, 1]$	$3x^2$	1	0.2433	0.2522
27	$17755379x^2 + 98203365x - 31600371$	$[1, 10, 3, 1]$	$x$	1	0.07964	0.09048
28	$276854716x^2 - 246270615x + 49355750$	$[1, -3, -2, 1]$	$3x - 1$	1	0.05386	0.09819
29	$-738811845x^2 - 682496898x + 276854716$	$[3, -10, -1, 1]$	$3x$	3	0.3509	0.6996
30	$-1015666561x^2 - 436226283x + 227498966$	$[0, -1, 1, 1]$	$-x^2$	0	0.06168	0.07615
31	$3729496581x^2 + 293012288x - 436226283$	$[1, 19, -8, 3]$	$3x^2$	1	0.2320	0.2366
32	$293012288x^2 - 4165722864x + 1243165527$	$[1, 10, 3, 1]$	$x$	1	0.08829	0.09659
33	$-12497168592x^2 + 2850459717x + 293012288$	$[1, -3, -1, 1]$	$3x$	1	0.7270	0.7652
34	$-12790180880x^2 + 7016182581x - 950153239$	$[0, -1, 1, 1]$	$-x^2$	0	0.07082	0.09252
35	$33838728623x^2 + 28503900342x - 11840027641$	$[3, -8, -2, 1]$	$3x - 1$	3	0.04218	0.07728
36	$-137036268792x^2 - 51672972403x + 28503900342$	$[1, 10, -8, 3]$	$3x^2$	1	0.1930	0.2288
37	$-51672972403x^2 + 165540169134x - 45678756264$	$[1, 11, 3, 1]$	$x$	1	0.08590	0.1008
38	$496620507402x^2 + 17982648417x - 51672972403$	$[1, -3, -1, 1]$	$3x$	1	0.7073	0.7159
39	$-530310831388x^2 - 400735959088x + 171534385273$	$[1, -2, -1, 1]$	$x^2 + x$	1	0.3210	0.5379
40	$-548293479805x^2 + 147557520717x + 5994216139$	$[1, -1, 0, 1]$	$-3/7x^2 + 3/7x + 1/7$	1	0.08019	0.08601



41	$990966041956x^2 + 1515305567115x - 554287695944$	$[1, -3, 2, 1]$	$3x - 1$
42	$4635761213700x^2 + 3554950659389x - 1515305567115$	$[1, -4, 3, 1]$	$-3x^2$
43	$-3554950659389x^2 + 6151066780815x - 1545253737900$	$[1, 11, -3, 1]$	$-x$
44	$18453200342445x^2 + 6029090764467x - 3554950659389$	$[1, 3, -1, 1]$	$3x$
45	$15979060237367x^2 + 21886174985486x - 8160763702304$	$[1, 2, 1, 1]$	$-x^2 - x$
46	$-22008151001834x^2 + 121976016348x + 2009696921489$	$[1, -1, 0, 1]$	$3/7x^2 - 3/7x - 1$
47	$22374079050878x^2 + 71931567753621x - 24017847923323$	$[1, 3, 2, 1]$	$3x - 1$
48	$-139175780922603x^2 - 193420624209985x + 71931567753621$	$[1, 4, -3, 1]$	$3x^2$
49	$-193420624209985x^2 + 211107348676224x - 46391926974201$	$[1, 11, 3, 1]$	$x$
50	$633322046028672x^2 + 441086091707352x - 193420624209985$	$[1, -3, -1, 1]$	$3x$
51	$826742670238657x^2 + 229978743031128x - 147028697235784$	$[0, -1, 1, 1]$	$-x^2$
52	$2921314102423323x^2 - 136806441145273x - 229978743031128$	$[1, -6, 3, 1]$	$-3x^2$
53	$3058120543568596x^2 + 3014486404309178x - 1203750110505569$	$[1, 10, -2, 1]$	$1 - x$
54	$136806441145273x^2 + 3151292845454451x - 973771367474441$	$[0, -1, 1, 1]$	$-3/5x^2 - 3/5x - 1$
55	$9317072095218080x^2 - 6483026271313593x + 1110577808619714$	$[1, 5, -2, 1]$	$3x - 1$
56	$19449078813940779x^2 + 24619482859795098x - 9317072095218080$	$[3, 7, 1, 1]$	$-3x$
57	$28766150909158859x^2 + 18136456588481505x - 8206494286598366$	$[0, 1, 1, 1]$	$-x^2$
58	$110917935587271675x^2 + 25643218856285656x - 18136456588481505$	$[1, 19, 8, 3]$	$-3x^2$
59	$-25643218856285656x^2 + 129054392175753180x - 36972645195757225$	$[1, 10, -3, 1]$	$-x$
60	$387163176527259540x^2 - 33988279018414707x - 25643218856285656$	$[1, 3, -1, 1]$	$3x$
61	$412806395383545196x^2 - 163042671194167887x + 11329426339471569$	$[0, -1, 1, 1]$	$-x^2$
62	$901934408966048857x^2 + 1041388235938052994x - 401476969044073627$	$[3, 8, 2, 1]$	$1 - 3x$
63	$3910234134030367452x^2 + 2222230298848110125x - 1041388235938052994$	$[1, 10, 8, 3]$	$-3x^2$
64	$2222230298848110125x^2 - 4951622369968420446x + 1303411378010122484$	$[1, -11, 3, 1]$	$x$
65	$14854867109905261338x^2 + 2756456762513962923x - 2222230298848110125$	$[1, 3, 1, 1]$	$-3x$
66	$14320640646239408540x^2 + 14881931801298913940x - 5870441290806408087$	$[1, -2, 1, 1]$	$-x^2 - x$
67	$17077097408753371463x^2 - 2195165607454457523x - 918818920837987641$	$[1, 1, 0, 1]$	$-3/7x^2 + 3/7x + 1$
68	$23662594231116744032x^2 + 51792583381319619789x - 17995916329591359104$	$[1, 3, -2, 1]$	$1 - 3x$
69	$-124975531682124309408x^2 - 131715155912842115335x + 51792583381319619789$	$[1, -4, -3, 1]$	$3x^2$
70	$131715155912842115335x^2 - 176768115063443929197x + 41658510560708103136$	$[1, -11, -3, 1]$	$-x$
71	$530304345190331787591x^2 + 270169936056402036597x - 131715155912842115335$	$[1, -3, 1, 1]$	$-3x$
72	$662019501103173902926x^2 + 93401820992958107400x - 90056645352134012199$	$[0, 1, 1, 1]$	$-x^2$
73	$2256228439365923745375x^2 - 381814038124299580726x - 93401820992958107400$	$[1, 6, 3, 1]$	$-3x^2$
74	$381814038124299580726x^2 + 2349630260358881852775x - 752076146455307915125$	$[1, 10, -3, 1]$	$-x$
75	$6667076742952345977599x^2 - 5751300814097704340328x + 1133890184579607495851$	$[1, 3, -2, 1]$	$3x - 1$
76	$17253902442293113020984x^2 + 16599559675118215445244x - 6667076742952345977599$	$[3, 10, 1, 1]$	$-3x$
77	$23920979185245458998583x^2 + 10848258861020511104916x - 5533186558372738481748$	$[0, 1, 1, 1]$	$-x^2$
78	$88362497230854592440993x^2 + 8623797397816074316165x - 10848258861020511104916$	$[1, 19, 8, 3]$	$-3x^2$
79	$-8623797397816074316165x^2 + 99210756091875103545909x - 29454165743618197480331$	$[1, 10, -3, 1]$	$-x$
80	$297632268275625310637727x^2 - 62491105037406369492498x - 8623797397816074316165$	$[1, 3, -1, 1]$	$3x$

Number:  $\xi = .8712\dots$  Equation:  $3x^3 + x^2 - 2x - 1 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$3 - x - 3x^2$	0	0.1122	0.2245
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$3 - x - 3x^2$	-1	0.06640	0.09960
3	$2x^2 + 4x - 5$	[1, 6, -5, 1]	$3x^2 + x - 3$	-1	0.06138	0.1105
4	$17x^2 + 7x - 19$	[1, 6, 5, 1]	$3 - x - 3x^2$	-1	0.1311	0.2538
5	$27x^2 - 35x + 10$	[2, -13, 3, 1]	$-3x^2 + 2x$	-2	0.2377	0.3986
6	$44x^2 - 28x - 9$	[0, 1, 1, 1]	$-x$	0	0.3273	0.4735
7	$71x^2 - 63x + 1$	[0, 1, 2, 1]	$3 - x - 3x^2$	0	0.1260	0.2253
8	$-68x^2 + 135x - 66$	[1, 3, -7, 2]	$3x^2 + x - 3$	-1	0.06740	0.1006
9	$130x^2 + 269x - 333$	[1, 6, 5, 1]	$3 - x - 3x^2$	-1	0.06065	0.1095
10	$1129x^2 + 472x - 1268$	[1, -6, 5, 1]	$3 - x - 3x^2$	-1	0.1301	0.2512
11	$-1833x^2 + 2351x - 657$	[2, 13, -3, 1]	$3x^2 - 2x$	-2	0.2389	0.4029
12	$-2962x^2 + 1879x + 611$	[0, -1, 1, 1]	$-x$	0	0.3304	0.4774
13	$-4795x^2 + 4230x - 46$	[0, -1, 2, 1]	$3 - x - 3x^2$	0	0.1281	0.2277
14	$-4657x^2 + 9071x - 4368$	[1, 3, 7, 2]	$3 - x - 3x^2$	1	0.06778	0.1014
15	$-8447x^2 - 18096x + 22175$	[1, 6, -5, 1]	$3x^2 + x - 3$	1	0.05991	0.1085
16	$-74972x^2 - 31824x + 84621$	[1, 6, 5, 1]	$3 - x - 3x^2$	1	0.1290	0.2486
17	$-124419x^2 + 157918x - 43148$	[2, -13, 3, 1]	$-3x^2 + 2x$	2	0.2402	0.4072
18	$-199391x^2 + 126094x + 41473$	[0, 1, 1, 1]	$-x$	0	0.3335	0.4814
19	$-323810x^2 + 284012x - 1675$	[0, 1, 2, 1]	$3 - x - 3x^2$	0	0.1301	0.2302
20	$318785x^2 - 609497x + 289037$	[1, 3, -7, 2]	$3x^2 + x - 3$	1	0.06817	0.1022
21	$-548326x^2 - 1217319x + 1476608$	[1, 6, 5, 1]	$3 - x - 3x^2$	1	0.05918	0.1076
22	$-4978150x^2 - 2145601x + 5647143$	[1, -6, 5, 1]	$3 - x - 3x^2$	1	0.1280	0.2460
23	$8443782x^2 - 10607338x + 2832549$	[2, 13, -3, 1]	$3x^2 - 2x$	2	0.2414	0.4115
24	$13421932x^2 - 8461737x - 2814594$	[0, -1, 1, 1]	$-x$	0	0.3367	0.4853
25	$21865714x^2 - 19069075x + 17955$	[0, -1, 2, 1]	$3 - x - 3x^2$	0	0.1322	0.2327
26	$21811849x^2 - 40952744x + 19122940$	[1, 3, 7, 2]	$3 - x - 3x^2$	-1	0.06856	0.1030
27	$35556971x^2 + 81887533x - 98321564$	[1, 6, -5, 1]	$3x^2 + x - 3$	-1	0.05845	0.1066
28	$330521663x^2 + 144652126x - 376852225$	[1, 6, 5, 1]	$3 - x - 3x^2$	-1	0.1270	0.2434
29	$572948064x^2 - 712487039x + 185869537$	[2, -13, 3, 1]	$-3x^2 + 2x$	-2	0.2426	0.4160
30	$903469727x^2 - 567834913x - 190982688$	[0, 1, 1, 1]	$-x$	0	0.3398	0.4892
31	$1461078338x^2 + 190982688x - 1275208801$	[1, 7, 1, 2]	$6x^2 - x - 4$	1	0.2823	0.5022
32	$15339453x^2 - 1471304640x + 1270095650$	[1, 1, -1, 1]	$-3x^2 + 2x$	1	0.1530	0.2670
33	$1476417791x^2 - 1280321952x - 5113151$	[0, 1, 1, 1]	$-x$	0	0.1342	0.2352
34	$1491757244x^2 - 2751626592x + 1264982499$	[0, 1, 2, 1]	$3 - x - 3x^2$	0	0.06895	0.1038
35	$2303190253x^2 + 5508366335x - 6546574089$	[1, 1, -4, 1]	$3x^2 + x - 3$	1	0.05772	0.1057
36	$21942912520x^2 + 9751750171x - 25148088602$	[1, 6, 5, 1]	$3 - x - 3x^2$	1	0.1260	0.2408
37	$38870778759x^2 - 47856765026x + 12191162349$	[2, -13, 3, 1]	$-3x^2 + 2x$	2	0.2438	0.4205
38	$60813691279x^2 - 38105014855x - 12956926253$	[0, 1, 1, 1]	$-x$	0	0.3430	0.4932
39	$97387178326x^2 + 12956926253x - 85196015977$	[1, 7, 1, 2]	$6x^2 - x - 4$	-1	0.2794	0.4982
40	$2297291712x^2 - 98918706134x + 84430252073$	[1, 1, -1, 1]	$-3x^2 + 2x$	-1	0.1541	0.2664

41	$99684470038x^2 - 85961779881x - 765763904$	$[0, 1, 1, 1]$	$-x$	0	0.1363
42	$101981761750x^2 - 184880486015x + 83664488169$	$[0, 1, 2, 1]$	$3 - x - 3x^2$	0	0.06934
43	$149011702757x^2 + 370526735934x - 435873950522$	$[1, 1, -4, 1]$	$3x^2 + x - 3$	-1	0.05700
44	$1456633554323x^2 + 657388983699x - 1678148587500$	$[1, 6, 5, 1]$	$3 - x - 3x^2$	-1	0.1250
45	$2636712050628x^2 - 3214441588075x + 799244570624$	$[2, -13, 3, 1]$	$-3x^2 + 2x$	-2	0.2450
46	$4093345604951x^2 - 2557052604376x - 878904016876$	$[0, 1, 1, 1]$	$-x$	0	0.3462
47	$6491079316823x^2 + 878904016876x - 5691834746199$	$[1, 7, 1, 2]$	$6x^2 - x - 4$	1	0.2765
48	$238978338756x^2 - 6650398209327x + 5612175299947$	$[1, 1, -1, 1]$	$-3x^2 + 2x$	1	0.1551
49	$6730057655579x^2 - 5771494192451x - 79659446252$	$[0, 1, 1, 1]$	$-x$	0	0.1384
50	$6969035994335x^2 - 12421892401778x + 5532515853695$	$[0, 1, 2, 1]$	$3 - x - 3x^2$	0	0.06973
51	$9628511566750x^2 + 24923444249808x - 29019439962863$	$[1, 1, -4, 1]$	$3x^2 + x - 3$	1	0.05629
52	$96686831455339x^2 + 44314372645921x - 111981764138397$	$[1, 6, 5, 1]$	$3 - x - 3x^2$	1	0.1240
53	$178827915986937x^2 - 215905442113297x + 52372458809418$	$[2, -13, 3, 1]$	$-3x^2 + 2x$	2	0.2463
54	$275514747442276x^2 - 171591069467376x - 59609305328979$	$[0, 1, 1, 1]$	$-x$	0	0.3494
55	$432632123870530x^2 + 59609305328979x - 380259665061112$	$[1, 7, 1, 2]$	$6x^2 - x - 4$	-1	0.2736
56	$21710539558683x^2 - 447105816909652x + 373022818541551$	$[1, 1, -1, 1]$	$-3x^2 + 2x$	-1	0.1562
57	$454342663429213x^2 - 387496511580673x - 7236846519561$	$[0, 1, 1, 1]$	$-x$	0	0.1405
58	$476053202987896x^2 - 834602328490325x + 365785972021990$	$[0, 1, 2, 1]$	$3 - x - 3x^2$	0	0.07012
59	$621304713078074x^2 + 1676441503500211x - 1931960244556295$	$[1, 1, -4, 1]$	$3x^2 + x - 3$	-1	0.05557
60	$6417185446746959x^2 + 2987097034978432x - 7472322237169096$	$[1, 6, 5, 1]$	$3 - x - 3x^2$	-1	0.1230
61	$12126701476201707x^2 - 14501653097548097x + 3430088411768527$	$[2, -13, 3, 1]$	$-3x^2 + 2x$	-2	0.2475
62	$18543886922948666x^2 - 11514556062569665x - 4042233825400569$	$[0, 1, 1, 1]$	$-x$	0	0.3526
63	$28834152158254247x^2 + 4042233825400569x - 25404063746485720$	$[1, 7, 1, 2]$	$6x^2 - x - 4$	1	0.2708
64	$1836436240896126x^2 - 30058442985518331x + 24791918332853678$	$[1, 1, -1, 1]$	$-3x^2 + 2x$	1	0.1573
65	$30670588399150373x^2 - 26016209160117762x - 612145413632042$	$[0, 1, 1, 1]$	$-x$	0	0.1426
66	$32507024640046499x^2 - 56074652145636093x + 24179772919221636$	$[0, 1, 2, 1]$	$3 - x - 3x^2$	0	0.07052
67	$40032294117618409x^2 + 112761449704904228x - 128613970903301001$	$[1, 1, -4, 1]$	$3x^2 + x - 3$	1	0.05486
68	$425874206827521412x^2 + 201343126490586820x - 498603362414807231$	$[1, 6, 5, 1]$	$3 - x - 3x^2$	1	0.1220
69	$822216846233617917x^2 - 974018770983266690x + 224531080336934592$	$[2, -13, 3, 1]$	$-3x^2 + 2x$	2	0.2487
70	$1248091053061139329x^2 - 772675644492679870x - 274072282077872639$	$[0, 1, 1, 1]$	$-x$	0	0.3558
71	$1921684294071943105x^2 + 274072282077872639x - 1697153213735008513$	$[1, 7, 1, 2]$	$6x^2 - x - 4$	-1	0.2679
72	$148623605222814141x^2 - 2020766697553819199x + 1647612011994070466$	$[1, 1, -1, 1]$	$-3x^2 + 2x$	-1	0.1583
73	$2070307899294757246x^2 - 1746694415475946560x - 49541201740938047$	$[0, 1, 1, 1]$	$-x$	0	0.1448
74	$2218931504517571387x^2 - 3767461113029765759x + 1598070810253132419$	$[0, 1, 2, 1]$	$3 - x - 3x^2$	0	0.07091
75	$2575280926241825870x^2 + 7584463427800469565x - 8561673543789163016$	$[1, 1, -4, 1]$	$3x^2 + x - 3$	-1	0.05416
76	$28260301557609314918x^2 + 13570856045347806711x - 33269484059167958613$	$[1, 6, 5, 1]$	$3 - x - 3x^2$	-1	0.1210
77	$55740115640719351218x^2 - 65420378651422215730x + 14689445512261508207$	$[2, -13, 3, 1]$	$-3x^2 + 2x$	-2	0.2499
78	$84000417198328666136x^2 - 51849522606074409019x - 18580038546906450406$	$[0, 1, 1, 1]$	$-x$	0	0.3590
79	$128068753735113190757x^2 + 18580038546906450406x - 113379308222851682550$	$[1, 7, 1, 2]$	$6x^2 - x - 4$	1	0.2651
80	$11671779103934826597x^2 - 135849939804403075155x + 109488715188206740351$	$[1, 1, -1, 1]$	$-3x^2 + 2x$	1	0.1594

Number:  $\xi = .8878\dots$  Equation:  $3x^3 + x^2 - x - 2 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.09958	0.1992
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-3/2x^2 - 1/2x + 3/2$	-1	0.05032	0.07547
3	$x^2 + 7x - 7$	[1, 7, -7, 1]	$3x^2 + x - 3$	-1	0.1557	0.3146
4	$11x^2 + 6x - 14$	[1, 7, 3, 1]	$-3/2x^2 - 1/2x + 1$	-1	0.3901	0.7026
5	$9x^2 - 17x + 8$	[1, -3, 1, 1]	$-x^2 + 2/3x - 1/3$	-1	0.3047	0.4576
6	$20x^2 - 11x - 6$	[0, 1, 1, 1]	$-x$	0	0.3744	0.5214
7	$29x^2 - 28x + 2$	[0, 1, 2, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.09945	0.1926
8	$-26x^2 + 58x - 31$	[1, 0, -3, 1]	$3/2x^2 + 1/2x - 3/2$	-1	0.05025	0.07471
9	$41x^2 + 199x - 209$	[1, 7, 7, 1]	$3 - x - 3x^2$	-1	0.1649	0.3207
10	$334x^2 + 163x - 408$	[1, -7, 3, 1]	$-3/2x^2 - 1/2x + 1$	-1	0.3935	0.7200
11	$-237x^2 + 492x - 250$	[1, 3, -1, 1]	$x^2 - 2/3x + 1/3$	-1	0.3031	0.4517
12	$-571x^2 + 329x + 158$	[0, -1, 1, 1]	$-x$	0	0.3625	0.5105
13	$-808x^2 + 821x - 92$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.09466	0.1875
14	$-670x^2 + 1675x - 959$	[1, 0, 3, 1]	$-3/2x^2 - 1/2x + 3/2$	1	0.04977	0.07405
15	$-1537x^2 - 5649x + 6227$	[1, 7, -7, 1]	$3x^2 + x - 3$	1	0.1738	0.3274
16	$-10109x^2 - 4401x + 11876$	[1, 7, 3, 1]	$-3/2x^2 - 1/2x + 1$	1	0.3959	0.7371
17	$-6168x^2 + 14221x - 7764$	[1, -3, 1, 1]	$-x^2 + 2/3x - 1/3$	1	0.3007	0.4469
18	$-16277x^2 + 9820x + 4112$	[0, 1, 1, 1]	$-x$	0	0.3498	0.4994
19	$-22445x^2 + 24041x - 3652$	[0, 1, 2, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.09639	0.1826
20	$16967x^2 - 48312x + 29519$	[1, 0, -3, 1]	$3/2x^2 + 1/2x - 3/2$	1	0.04917	0.07359
21	$-54623x^2 - 160077x + 185181$	[1, 7, 7, 1]	$3 - x - 3x^2$	1	0.1825	0.3348
22	$-305083x^2 - 118006x + 345258$	[1, -7, 3, 1]	$-3/2x^2 - 1/2x + 1$	1	0.3974	0.7541
23	$158181x^2 - 410537x + 239804$	[1, 3, -1, 1]	$x^2 - 2/3x + 1/3$	1	0.2976	0.4433
24	$463264x^2 - 292531x - 105454$	[0, -1, 1, 1]	$-x$	0	0.3365	0.4881
25	$621445x^2 - 703068x + 134350$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.09790	0.1780
26	$419920x^2 - 1391688x + 904593$	[1, 0, 3, 1]	$-3/2x^2 - 1/2x + 3/2$	-1	0.04845	0.07334
27	$1873939x^2 + 4527809x - 5497155$	[1, 7, -7, 1]	$3x^2 + x - 3$	-1	0.1910	0.3428
28	$9182702x^2 + 3138543x - 10024964$	[1, 7, 3, 1]	$-3/2x^2 - 1/2x + 1$	-1	0.3979	0.7707
29	$3980805x^2 - 11836572x + 7371094$	[1, -3, 1, 1]	$-x^2 + 2/3x - 1/3$	-1	0.2938	0.4410
30	$13163507x^2 - 8698029x - 2653870$	[0, 1, 1, 1]	$-x$	0	0.3226	0.4766
31	$17144312x^2 - 20534601x + 4717224$	[0, 1, 2, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.09917	0.1735
32	$-10068476x^2 + 40037525x - 27610437$	[1, 0, -3, 1]	$3/2x^2 + 1/2x - 3/2$	-1	0.04763	0.07329
33	$62694359x^2 + 127822439x - 162906361$	[1, 7, 7, 1]	$3 - x - 3x^2$	-1	0.1992	0.3513
34	$275706721x^2 + 82670041x - 290728800$	[1, -7, 3, 1]	$-3/2x^2 - 1/2x + 1$	-1	0.3974	0.7869
35	$-97692120x^2 + 340834801x - 225600720$	[1, 3, -1, 1]	$x^2 - 2/3x + 1/3$	-1	0.2893	0.4398
36	$-373398841x^2 + 258164760x + 65128080$	[0, -1, 1, 1]	$-x$	0	0.3083	0.4650
37	$-471090961x^2 + 598999561x - 160472640$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 3/2$	0	0.1002	0.1694
38	$-230382001x^2 + 1150326842x - 839708521$	[1, 0, 3, 1]	$-3/2x^2 - 1/2x + 3/2$	1	0.04669	0.07344
39	$-2058361561x^2 - 3601126207x + 4819779247$	[1, 7, -7, 1]	$3x^2 + x - 3$	1	0.2071	0.3604
40	$-8258849651x^2 - 2152091166x + 8420905454$	[1, 7, 3, 1]	$-3/2x^2 - 1/2x + 1$	1	0.3959	0.8026

41	$-2314146969x^2 + 9801614297x - 6878140808$	$[1, -3, 1, 1]$	$-x^2 + 2/3x - 1/3$	1
42	$-10572996620x^2 + 7649523131x + 1542764646$	$[0, 1, 1, 1]$	$-x$	0
43	$-12887143589x^2 + 17451137428x - 5335376162$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 3/2$	0
44	$4884079346x^2 - 33005969098x + 25454201671$	$[1, 0, -3, 1]$	$3/2x^2 + 1/2x - 3/2$	1
45	$-66594446321x^2 - 101234298559x + 142374543209$	$[1, 7, 7, 1]$	$3 - x - 3x^2$	1
46	$-246859037974x^2 - 55209974563x + 243608841768$	$[1, -7, 3, 1]$	$-3/2x^2 - 1/2x + 1$	1
47	$51959778357x^2 - 281498890212x + 208968989530$	$[1, 3, -1, 1]$	$x^2 - 2/3x + 1/3$	1
48	$298818816331x^2 - 226288915649x - 34639852238$	$[0, -1, 1, 1]$	$-x$	0
49	$350778594688x^2 - 507787805861x + 174329137292$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x + 3/2$	0
50	$89284888750x^2 - 945730969195x + 769281511799$	$[1, 0, 3, 1]$	$-3/2x^2 - 1/2x + 3/2$	-1
51	$2129274757897x^2 + 2839313227689x - 4199306473787$	$[1, 7, -7, 1]$	$3x^2 + x - 3$	-1
52	$7363597089629x^2 + 1390035092841x - 7038619701476$	$[1, 7, 3, 1]$	$-3/2x^2 - 1/2x + 1$	-1
53	$1065057704688x^2 - 8073635559421x + 6328581231684$	$[1, -3, 1, 1]$	$-x^2 + 2/3x - 1/3$	-1
54	$8428654794317x^2 - 6683600466580x - 710038469792$	$[0, 1, 1, 1]$	$-x$	0
55	$-9493712499005x^2 + 14757236026001x - 5618542761892$	$[0, -1, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	0
56	$-1065898356167x^2 + 27060219905952x - 23185050168839$	$[1, 0, -3, 1]$	$-3/2x^2 - 1/2x + 3/2$	1
57	$67423353794183x^2 + 79437286693077x - 123675590318421$	$[1, -7, 7, 1]$	$3 - x - 3x^2$	1
58	$-219225062374723x^2 - 34133084711566x + 203112877011498$	$[1, 7, -3, 1]$	$3/2x^2 + 1/2x - 1$	1
59	$-18020899348341x^2 + 231238995273617x - 191098944112604$	$[1, 3, 1, 1]$	$-x^2 + 2/3x - 1/3$	1
60	$-237245961723064x^2 + 197105910562051x + 12013932898894$	$[0, 1, 1, 1]$	$-x$	0
61	$-255266861071405x^2 + 428344905835668x - 179085011213710$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 3/2$	0
62	$13360655749160x^2 + 773154272513928x - 696972422656233$	$[1, 0, 3, 1]$	$-3/2x^2 - 1/2x + 3/2$	1
63	$-2279380850294304x^2 + 3623865157247395x - 1420666156810786$	$[1, 8, 0, 1]$	$2 - 3x$	1
64	$2117638579467019x^2 + 2216559656185769x - 3637225812996555$	$[1, 7, -1, 1]$	$-3/4x^2 + 1/4x + 3/4$	1
65	$-6514658009228342x^2 - 809254155124143x + 5853785469182324$	$[0, 1, -2, 1]$	$3/2x^2 + 1/2x - 1$	0
66	$-148381615078125x^2 + 6613579085947092x - 5754864392463574$	$[1, 1, 1, 1]$	$-x^2 + 2/3x - 1/3$	-1
67	$-6663039624306467x^2 + 5804324930822949x + 98921076718750$	$[0, 1, 1, 1]$	$-x$	0
68	$-6811421239384592x^2 + 12417904016770041x - 5655943315744824$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 3/2$	0
69	$1672493734232644x^2 + 22057296914027045x - 20901818990387277$	$[1, 0, 3, 1]$	$-3/2x^2 - 1/2x + 3/2$	-1
70	$-61154409539383203x^2 + 105147557064983277x - 45148625449239842$	$[1, 8, 0, 1]$	$2 - 3x$	-1
71	$66050444439627119x^2 + 61671425349976079x - 106820050799215921$	$[1, 7, -1, 1]$	$-3/4x^2 + 1/4x + 3/4$	-1
72	$-186686769784160881x^2 + 170680985694017520x - 4379019089651040$	$[1, 2, -1, 1]$	$3/2x^2 - x$	-1
73	$180118241149684321x^2 - 359557265023003921x + 177249514328494080$	$[1, -2, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	-1
74	$85756030343056799x^2 + 628300263336935282x - 625431536515745041$	$[1, -3, -3, 1]$	$3/2x^2 + 1/2x - 3/2$	-1
75	$-1627632698981635449x^2 + 3047139105878048888x - 1422375133717603680$	$[1, -8, 0, 1]$	$2 - 3x$	-1
76	$-2047806670233348721x^2 - 1710520002503502007x + 3132895136221105687$	$[1, -7, 1, 1]$	$3/4x^2 - 1/4x - 3/4$	-1
77	$-5217316037853562820x^2 + 5012058472589531051x - 337286667729846714$	$[1, 2, 1, 1]$	$-3/2x^2 + x$	-1
78	$4711386036258792749x^2 - 10398017844308017228x + 5517988474184301122$	$[1, 2, -2, 1]$	$3/2x^2 + 1/2x - 3/2$	-1
79	$-3565596675017658934x^2 - 17868398117658960538x + 1867500055584468911$	$[1, 3, 3, 1]$	$-3/2x^2 - 1/2x + 3/2$	-1
80	$-42908404327923904812x^2 + 88196201227053668875x - 44481194461204255690$	$[1, -8, 0, 1]$	$3x - 2$	-1

Number:  $\xi = .7357\dots$  Equation:  $3x^3 + x^2 - x - 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$-3x^2 - x + 2$	0	0.1945	0.3889
2	$-x^2 - 2x + 2$	$[2, -2, -1, 1]$	$-9/2x^2 + 5/2$	-2	0.05021	0.1130
3	$7x^2 + 3x - 6$	$[1, 3, -3, 1]$	$3x^2 + x - 2$	-2	0.2210	0.4239
4	$-3x^2 + 9x - 5$	$[1, -14, -3, 2]$	$3/2x^2 - x + 1/2$	-1	0.2105	0.2988
5	$-10x^2 + 6x + 1$	$[0, -1, 1, 1]$	$-x$	0	0.1912	0.2619
6	$-13x^2 + 15x - 4$	$[0, -1, 2, 1]$	$-3x^2 - x + 2$	0	0.1545	0.2816
7	$x^2 - 32x + 23$	$[1, -1, -3, 1]$	$3x^2 + x - 2$	1	0.2527	0.3835
8	$-34x^2 - 28x + 39$	$[1, 2, 2, 1]$	$-3/2x^2 - 1/2x + 1$	1	0.06744	0.1534
9	$-133x^2 + 106x - 6$	$[2, -5, 3, 1]$	$-3x^2 + 2x$	2	0.1194	0.1955
10	$115x^2 - 245x + 118$	$[1, 5, -3, 2]$	$3x^2 + x - 2$	1	0.1456	0.2115
11	$-239x^2 - 478x + 481$	$[1, 5, 4, 1]$	$-3x^2 - x + 2$	1	0.2017	0.4506
12	$-841x^2 - 360x + 720$	$[1, -2, 2, 1]$	$-3/2x^2 - 1/2x + 1$	1	0.1108	0.2122
13	$1558x^2 - 1800x + 481$	$[2, 5, -3, 1]$	$3x^2 - 2x$	2	0.07727	0.1407
14	$115x^2 - 3839x + 2762$	$[1, 5, 3, 2]$	$-3x^2 - x + 2$	1	0.1263	0.1918
15	$-8171x^2 - 6716x + 9363$	$[1, -5, 4, 1]$	$-3x^2 - x + 2$	1	0.2699	0.6143
16	$1903x^2 - 13317x + 8767$	$[1, 3, 0, 1]$	$1/2 - 3/2x$	1	0.3295	0.4791
17	$-11862x^2 + 16079x - 5409$	$[1, 1, -2, 1]$	$3/5x^2 + 7/5x - 2/5$	1	0.4586	0.7601
18	$-18130x^2 - 3954x + 12721$	$[1, 1, 1, 1]$	$3/2x^2 - 1/2$	1	0.1818	0.2800
19	$13765x^2 - 29396x + 14176$	$[1, -1, 0, 1]$	$3x^2 - 2x$	1	0.07279	0.1057
20	$28763x^2 + 57337x - 57748$	$[1, -3, -1, 1]$	$3x^2 + x - 2$	1	0.1009	0.2255
21	$-129483x^2 + 115085x - 14587$	$[1, -6, -1, 1]$	$3/2x^2 - x + 1/2$	1	0.2924	0.5270
22	$-158246x^2 + 57748x + 43161$	$[0, -1, 1, 1]$	$-x$	0	0.3213	0.3879
23	$-72524x^2 - 201407x + 187420$	$[1, -3, 0, 1]$	$6x^2 - x - 2$	1	0.2662	0.5313
24	$85722x^2 - 259155x + 144259$	$[0, -1, 1, 1]$	$-3/5x^2 - 7/5x + 2/5$	0	0.4208	0.5972
25	$-287729x^2 + 172833x + 28574$	$[1, 1, 0, 1]$	$x$	1	0.3816	0.5231
26	$-360253x^2 - 28574x + 215994$	$[1, 0, 1, 1]$	$3/2x^2 - x - 1/2$	1	0.2536	0.3463
27	$373451x^2 - 431988x + 115685$	$[1, -1, 0, 1]$	$3x^2 - 2x - 1$	1	0.3091	0.5622
28	$13198x^2 - 460562x + 331679$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x + 1$	0	0.06311	0.09590
29	$-981839x^2 - 805439x + 1123920$	$[1, 4, 2, 1]$	$-3x^2 - x + 2$	-1	0.1350	0.3075
30	$1421280x^2 - 1929359x + 650160$	$[1, 5, -1, 1]$	$3/2x^2 - x + 1/2$	-1	0.2293	0.3797
31	$2403119x^2 - 1123920x - 473760$	$[0, -1, 1, 1]$	$-x$	0	0.2617	0.3291
32	$-2932319x^2 - 2876879x + 3703439$	$[1, 3, 0, 1]$	$-6x^2 + x + 2$	-1	0.3179	0.7091
33	$3824399x^2 - 3053279x + 176400$	$[1, 1, 0, 1]$	$6/5x^2 - 1/5x + 1/5$	-1	0.2381	0.3904
34	$-6756718x^2 + 176400x + 3527039$	$[0, 1, -1, 1]$	$-3/2x^2 + x + 1/2$	0	0.3150	0.4011
35	$-3461519x^2 - 6877678x + 6933118$	$[1, 2, 0, 1]$	$3x^2 - 2x$	1	0.05052	0.1128
36	$24260873x^2 + 10349277x - 20743914$	$[1, -2, -2, 1]$	$3x^2 + x - 2$	1	0.2223	0.4252
37	$-10248477x^2 + 31093191x - 17327755$	$[1, -6, -1, 1]$	$3/2x^2 - x + 1/2$	1	0.2103	0.2985
38	$-34509350x^2 + 20743914x + 3416159$	$[0, -1, 1, 1]$	$-x$	0	0.1906	0.2613
39	$-44757827x^2 + 51837105x - 13911596$	$[0, -1, 2, 1]$	$-3x^2 - x + 2$	0	0.1545	0.2809
40	$3023039x^2 - 110506528x + 79660297$	$[1, -1, -3, 1]$	$3x^2 + x - 2$	-1	0.2523	0.3836

41	$-117978926x^2 - 96594932x + 134913561$	[1, 2, 2, 1]	$-3/2x^2 - 1/2x + 1$	-1	0.06756	0.
42	$-458567627x^2 + 366422054x - 21383994$	[2, -5, 3, 1]	$-3x^2 + 2x$	-2	0.1189	0.
43	$394415645x^2 - 846373675x + 409190042$	[1, 5, -3, 2]	$3x^2 + x - 2$	-1	0.1455	0.
44	$-833154481x^2 - 1649979362x + 1664753759$	[1, 5, 4, 1]	$-3x^2 - x + 2$	-1	0.2023	0.
45	$-1641814562x^2 + 2905543079x - 1248954120$	[1, -3, 0, 1]	$3/2x - 1/2$	-1	0.3718	0.
46	$-2913707879x^2 - 1240789320x + 2489743440$	[1, 2, 1, 1]	$6/5x^2 - 1/5x - 4/5$	-1	0.1113	0.
47	$5364182522x^2 - 6220276200x + 1672918559$	[1, -2, -1, 1]	$3x^2 - 2x$	-1	0.07726	0.
48	$345426845x^2 - 13257377281x + 9566113318$	[1, 3, 2, 1]	$-3x^2 - x + 2$	-1	0.1261	0.
49	$-28352913109x^2 - 23168917444x + 32389603917$	[1, -5, 4, 1]	$-3x^2 - x + 2$	-1	0.2704	0.
50	$6400463057x^2 - 45992408043x + 30371258513$	[1, 3, 0, 1]	$1/2 - 3/2x$	-1	0.3291	0.
51	$-40808412378x^2 + 55558521361x - 18786799791$	[1, 1, -2, 1]	$3/5x^2 + 7/5x - 2/5$	-1	0.4584	0.
52	$-62760862430x^2 - 13602804126x + 43974062639$	[1, 1, 1, 1]	$3/2x^2 - 1/2$	-1	0.1824	0.
53	$47208875435x^2 - 101550929404x + 49158058304$	[1, -1, 0, 1]	$3x^2 - 2x$	-1	0.07273	0.
54	$100265299477x^2 + 197917863143x - 199867046012$	[1, -3, -1, 1]	$3x^2 + x - 2$	-1	0.1012	0.
55	$-446279414517x^2 + 397784909155x - 51107241173$	[1, -6, -1, 1]	$3/2x^2 - x + 1/2$	-1	0.2908	0.
56	$-546544713994x^2 + 199867046012x + 148759804839$	[0, -1, 1, 1]	$-x$	0	0.3208	0.
57	$-253587022996x^2 - 695304518833x + 648759196340$	[1, -3, 0, 1]	$6x^2 - x - 2$	-1	0.2657	0.
58	$292957690998x^2 - 895171564845x + 499999391501$	[0, -1, 1, 1]	$-3/5x^2 - 7/5x + 2/5$	0	0.4204	0.
59	$-992824128511x^2 + 597651955167x + 97652563666$	[1, 1, 0, 1]	$x$	-1	0.3804	0.
60	$-1246411151507x^2 - 97652563666x + 746411760006$	[1, 0, 1, 1]	$3/2x^2 - x - 1/2$	-1	0.2541	0.
61	$1285781819509x^2 - 1492823520012x + 402346827835$	[1, -1, 0, 1]	$3x^2 - 2x - 1$	-1	0.3090	0.
62	$39370668002x^2 - 1590476083678x + 1148758587841$	[0, 1, 1, 1]	$-3/2x^2 - 1/2x + 1$	0	0.06302	0.
63	$-3406905095521x^2 - 2778605339521x + 3887993259360$	[1, 4, 2, 1]	$-3x^2 - x + 2$	1	0.1353	0.
64	$4889540255040x^2 - 6666598598881x + 2258146507680$	[1, 5, -1, 1]	$3/2x^2 - x + 1/2$	1	0.2292	0.
65	$8296445350561x^2 - 3887993259360x - 1629846751680$	[0, -1, 1, 1]	$-x$	0	0.2611	0.
66	$-10181344618561x^2 - 9926292102241x + 12812738365921$	[1, 3, 0, 1]	$-6x^2 + x + 2$	1	0.3186	0.
67	$13185985605601x^2 - 10554591858241x + 628299756000$	[1, 1, 0, 1]	$6/5x^2 - 1/5x + 1/5$	1	0.2370	0.
68	$23367330224162x^2 - 628299756000x - 12184438609921$	[0, -1, 1, 1]	$3/2x^2 - x - 1/2$	0	0.3155	0.
69	$-12066243886561x^2 - 23740577463842x + 23995629980162$	[1, 2, 0, 1]	$-3x^2 + 2x$	1	0.05066	0.
70	$84053133827047x^2 + 35669963557443x - 71731837424166$	[1, 2, -2, 1]	$3x^2 + x - 2$	1	0.2234	0.
71	$35023000731843x^2 - 107401800981609x + 60057503846885$	[1, 6, 1, 1]	$-3/2x^2 + x - 1/2$	1	0.2101	0.
72	$119076134558890x^2 - 71731837424166x - 11674333577281$	[0, 1, 1, 1]	$-x$	0	0.1900	0.
73	$-154099135290733x^2 + 179133638405775x - 48383170269604$	[0, -1, -2, 1]	$3x^2 + x - 2$	0	0.1545	0.
74	$8949624481921x^2 - 381615943966112x + 275899978944983$	[1, -1, 3, 1]	$3x^2 + x - 2$	-1	0.2519	0.
75	$409375156176514x^2 + 333232773696508x - 466707950928039$	[1, -2, -2, 1]	$3/2x^2 + 1/2x - 1$	-1	0.06769	0.
76	$-1581071861520613x^2 + 1266648675552586x - 76142382480006$	[2, -5, -3, 1]	$3x^2 - 2x$	-2	0.1183	0.
77	$1352644714080595x^2 - 2923862919553205x + 1418933440512598$	[1, -5, -3, 2]	$3x^2 + x - 2$	-1	0.1454	0.
78	$2904155607457199x^2 + 5695441074146398x - 5761729800578401$	[1, -5, -4, 1]	$3x^2 + x - 2$	-1	0.2028	0.
79	$-5639006003762398x^2 + 10038237434212201x - 4332942704017800$	[1, -3, 0, 1]	$1/2 - 3/2x$	-1	0.3716	0.
80	$-10094672504596201x^2 - 4276507633633800x + 8609450337651600$	[1, -2, 1, 1]	$6/5x^2 - 1/5x - 4/5$	-1	0.1119	0.

Number:  $\xi = .9003\dots$  Equation:  $3x^3 + x^2 - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 1/3x + 1$	0	0.08974	0.1795
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 - 1/3x + 1$	-1	0.03974	0.05960
3	$9x^2 - 7x - 1$	[1, 9, -1, 1]	$2 - 3x$	-1	0.5641	0.9122
4	$10x^2 - 9x$	[0, 1, 1, 1]	$-3/5x^2 - 3/5x + 3/5$	0	0.2970	0.5376
5	$10x^2 - 19x + 9$	[1, 9, 0, 1]	$-x^2 - 1/3x + 1$	1	0.1187	0.1782
6	$-x^2 + 32x - 28$	[1, 2, -3, 1]	$x^2 + 1/3x - 1$	1	0.03728	0.06585
7	$99x^2 - 148x + 53$	[1, 9, 1, 1]	$3x - 2$	1	0.5590	0.8807
8	$100x^2 - 180x + 81$	[0, -1, 1, 1]	$-3/5x^2 - 3/5x + 3/5$	0	0.3527	0.5329
9	$-280x^2 + 201x + 46$	[1, -7, -3, 1]	$x - 2/3$	1	0.1994	0.3075
10	$19x^2 - 307x + 261$	[1, 2, 1, 1]	$3/5x^2 - 2/5x - 3/5$	1	0.1136	0.1961
11	$-242x^2 - 413x + 568$	[0, 1, 2, 1]	$-x^2 - 1/3x + 1$	0	0.04304	0.07360
12	$513x^2 - 2530x + 1862$	[1, -1, 7, 1]	$2 - 3x$	-1	0.5986	0.9474
13	$-2701x^2 + 1862x + 513$	[1, 7, -2, 1]	$x$	-1	0.6142	0.9283
14	$271x^2 - 2943x + 2430$	[1, 1, 0, 1]	$3/5x^2 - 2/5x - 3/5$	-1	0.3455	0.5839
15	$3214x^2 - 4392x + 1349$	[1, -1, 0, 1]	$2/3 - x$	-1	0.1798	0.2930
16	$-2159x^2 - 4024x + 5373$	[1, 2, 0, 1]	$-3/5x^2 + 2/5x + 3/5$	-1	0.1275	0.2196
17	$-7532x^2 - 3656x + 9397$	[0, -1, 2, 1]	$-x^2 - 1/3x + 1$	0	0.04317	0.07743
18	$39159x^2 - 37734x + 2231$	[2, 10, -3, 1]	$3x^2 - 2x - 1$	-2	0.2765	0.5342
19	$-19160x^2 - 39159x + 50787$	[1, 10, 1, 2]	$-x^2$	-1	0.3770	0.6548
20	$19999x^2 - 76893x + 53018$	[0, 1, 1, 1]	$2/3 - x$	0	0.2019	0.3116
21	$69947x^2 + 36928x - 89946$	[1, 1, -2, 1]	$3/5x^2 - 2/5x - 3/5$	1	0.1309	0.2321
22	$-159893x^2 + 3037x + 126874$	[0, -1, -2, 1]	$x^2 + 1/3x - 1$	0	0.04580	0.07465
23	$211618x^2 - 733427x + 488790$	[2, 9, 1, 1]	$3x^2 - 2x$	2	0.6081	0.9289
24	$371511x^2 - 736464x + 361916$	[0, -1, 1, 1]	$-2/5x^2 - \frac{11}{15}x + 2/5$	0	0.3584	0.5362
25	$648683x^2 + 371511x - 860301$	[1, -9, -1, 2]	$x^2$	1	0.3964	0.6957
26	$-277172x^2 - 1107975x + 1222217$	[0, 1, -1, 1]	$x - 2/3$	0	0.1870	0.3502
27	$1231812x^2 - 1098380x - 9595$	[1, 1, 1, 1]	$3/5x^2 - 2/5x + 2/5$	-1	0.09993	0.1794
28	$-1508984x^2 - 9595x + 1231812$	[0, 1, -1, 1]	$x$	0	0.1350	0.2250
29	$2740796x^2 - 1088785x - 1241407$	[0, -1, 2, 1]	$x^2 + 1/3x - 1$	0	0.04931	0.06721
30	$2282930x^2 + 10705202x - 11488743$	[2, -8, -1, 1]	$3x^2 - 2x$	-2	0.5468	1.043
31	$-457866x^2 + 11793987x - 10247336$	[0, -1, 1, 1]	$-2/5x^2 - \frac{11}{15}x + 2/5$	0	0.3368	0.5916
32	$-11946609x^2 + 10247336x + 457866$	[1, -9, 1, 2]	$-x$	-1	0.3111	0.5405
33	$14229539x^2 + 457866x - 11946609$	[1, 0, -1, 1]	$x$	-1	0.3974	0.6780
34	$-12404475x^2 + 22041323x - 9789470$	[1, 1, 0, 1]	$x^2 - 2/3x - 1/3$	-1	0.1173	0.1775
35	$-26176148x^2 + 9789470x + 12404475$	[1, -1, 0, 1]	$-x$	-1	0.1489	0.2031
36	$-38580623x^2 + 31830793x + 2615005$	[0, 1, 1, 1]	$-x^2 - 1/3x + 1$	0	0.03580	0.06034
37	$-123586884x^2 + 208619243x - 87647364$	[1, 9, 1, 1]	$3 - x - 3x^2$	1	0.3477	0.5311
38	$-249814871x^2 + 87647364x + 123586884$	[1, 9, -1, 1]	$-x$	1	0.4489	0.6140
39	$337462235x^2 + 65155308x - 332206127$	[1, 1, -2, 1]	$x - 2/3$	1	0.1914	0.3840
40	$-35939520x^2 + 361421915x - 296266607$	[1, 1, 1, 1]	$3/5x^2 - 2/5x + 2/5$	1	0.1155	0.1943



41	$-373401755x^2 + 296266607x + 35939520$	$[0, -1, 1, 1]$	$-x$	0	0.1110
42	$-409341275x^2 + 657688522x - 260327087$	$[0, -1, 2, 1]$	$-x^2 - 1/3x + 1$	0	0.03813
43	$-3163388102x^2 - 707369651x + 3201089391$	$[2, -8, -1, 1]$	$3x^2 - 2x$	-2	0.5701
44	$-447042564x^2 + 3461416478x - 2754046827$	$[1, 9, -1, 2]$	$-3/5x^2 + 2/5x - 2/5$	-1	0.3508
45	$-3610430666x^2 + 2754046827x + 447042564$	$[0, 1, 1, 1]$	$-x$	0	0.3436
46	$-4057473230x^2 + 6215463305x - 2307004263$	$[0, 1, 2, 1]$	$-x^2 - 1/3x + 1$	0	0.1127
47	$-1750468967x^2 + 11041937956x - 8522467568$	$[1, 0, 3, 1]$	$-x^2 - 1/3x + 1$	-1	0.03938
48	$-38377220769x^2 + 47651278616x - 11793528235$	$[1, 9, -1, 1]$	$2 - 3x$	-1	0.5141
49	$-40127689736x^2 + 58693216572x - 20315995803$	$[0, 1, 1, 1]$	$-3/5x^2 - 3/5x + 3/5$	0	0.3327
50	$98820906308x^2 - 59444806851x - 26583692534$	$[1, 7, -3, 1]$	$x - 2/3$	1	0.2204
51	$-19811693933x^2 + 105592904909x - 79009212375$	$[1, 2, 1, 1]$	$3/5x^2 - 2/5x - 3/5$	1	0.1192
52	$59197518442x^2 + 151741002967x - 184602117284$	$[0, 1, 2, 1]$	$-x^2 - 1/3x + 1$	0	0.04034
53	$-277630453575x^2 + 857288357786x - 546796789894$	$[1, -1, 7, 1]$	$2 - 3x$	-1	0.6098
54	$949831842311x^2 - 546796789894x - 277630453575$	$[1, 7, -2, 1]$	$x$	-1	0.6740
55	$-218432935133x^2 + 1009029360753x - 731398907178$	$[1, 1, 0, 1]$	$3/5x^2 - 2/5x - 3/5$	-1	0.3604
56	$-1227462295886x^2 + 1404085147680x - 269166336319$	$[1, -1, 0, 1]$	$2/3 - x$	-1	0.1630
57	$512965972045x^2 + 1471261931612x - 1740428267931$	$[1, 2, 0, 1]$	$-3/5x^2 + 2/5x + 3/5$	-1	0.1187
58	$2253394239976x^2 + 1538438715544x - 3211690199543$	$[0, -1, 2, 1]$	$-x^2 - 1/3x + 1$	0	0.04474
59	$-11996992505285x^2 + 13183563119014x - 2144866573296$	$[2, 9, -1, 1]$	$3x^2 - 2x$	-2	0.4758
60	$-14250386745261x^2 + 11645124403470x + 1066823626247$	$[0, -1, 1, 1]$	$-2/5x^2 - \frac{11}{15}x + 2/5$	0	0.3249
61	$4398260813272x^2 + 14250386745261x - 16395253318557$	$[1, 9, 1, 2]$	$-x^2$	-1	0.3486
62	$-9852125931989x^2 + 25895511148731x - 15328429692310$	$[0, 1, 1, 1]$	$2/3 - x$	0	0.2032
63	$-20793514131829x^2 - 15317210371508x + 30645640063818$	$[1, 0, -2, 1]$	$3/5x^2 - 2/5x - 3/5$	1	0.1348
64	$-51439154195647x^2 - 4738909594285x + 45962850435326$	$[0, 1, 2, 1]$	$-x^2 - 1/3x + 1$	0	0.04206
65	$-152105280088833x^2 + 241504253863308x - 94137883368760$	$[2, 10, 3, 1]$	$-3x^2 + 2x + 1$	-2	0.3420
66	$-191539887999733x^2 - 152105280088833x + 292206013892919$	$[1, 10, -1, 2]$	$x^2$	-1	0.4058
67	$-39434607910900x^2 - 393609533952141x + 386343897261679$	$[0, -1, 1, 1]$	$2/3 - x$	0	0.1721
68	$444311293981752x^2 - 335642137232068x - 57967396720073$	$[1, -2, -1, 1]$	$3/5x^2 - 2/5x + 2/5$	-1	0.1154
69	$483745901892652x^2 + 57967396720073x - 444311293981752$	$[0, -1, 1, 1]$	$-x$	0	0.1231
70	$928057195874404x^2 - 277674740511995x - 502278690701825$	$[0, -1, 2, 1]$	$-x^2 - 1/3x + 1$	0	0.05017
71	$-254245345304914x^2 - 3788728969026862x + 3617195809159197$	$[2, 8, 1, 1]$	$-3x^2 + 2x$	2	0.5277
72	$673811850569490x^2 - 4066403709538857x + 3114917118457372$	$[0, 1, 1, 1]$	$-2/5x^2 - \frac{11}{15}x + 2/5$	0	0.3553
73	$4291007659728687x^2 - 3114917118457372x - 673811850569490$	$[1, 9, 1, 2]$	$-x$	-1	0.3562
74	$-4545253005033601x^2 - 673811850569490x + 4291007659728687$	$[1, 0, -1, 1]$	$x$	-1	0.3598
75	$4964819510298177x^2 - 7181320827996229x + 2441105267887882$	$[1, 1, 0, 1]$	$x^2 - 2/3x - 1/3$	-1	0.1104
76	$8836260664762288x^2 - 2441105267887882x - 4964819510298177$	$[1, -1, 0, 1]$	$-x$	-1	0.1505
77	$13801080175060465x^2 - 9622426095884111x - 2523714242410295$	$[0, 1, 1, 1]$	$-x^2 - 1/3x + 1$	0	0.04066
78	$48974383252412280x^2 - 67746804570423433x + 21296135560421448$	$[1, 9, 1, 1]$	$3 - x - 3x^2$	1	0.3254
79	$84071598987894193x^2 - 21296135560421448x - 48974383252412280$	$[1, 9, -1, 1]$	$-x$	1	0.4511
80	$-105367734548315641x^2 - 34776959545464648x + 116721187822835713$	$[1, 1, -2, 1]$	$x - 2/3$	1	0.2032

Number:  $\xi = .7754\dots$  Equation:  $3x^3 + x^2 - 2 = 0$ . “All” optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 - 1/2x + 1$	0	0.1741	0.3483
2	$-2x^2 - x + 2$	[2, -1, -2, 1]	$-3/2x^2 + x$	-2	0.08811	0.1983
3	$5x^2 - 3$	[1, 3, -3, 2]	$3/2x^2 + 1/2x - 1$	-1	0.1595	0.2169
4	$2x^2 - 8x + 5$	[1, 7, 3, 1]	$-3/2x^2 + x$	-1	0.05165	0.07505
5	$-11x^2 - 25x + 26$	[1, -3, 3, 1]	$-3x^2 - x + 2$	-1	0.3160	0.6647
6	$30x^2 - 31x + 6$	[1, 7, -1, 1]	$3/4x^2 - 1/2x + 1/2$	-1	0.2530	0.4995
7	$41x^2 - 6x - 20$	[0, -1, 1, 1]	$-x$	0	0.3432	0.4322
8	$-50x^2 - 27x + 51$	[1, 2, -1, 1]	$3/2x - 1/2$	-1	0.3521	0.7893
9	$-20x^2 - 58x + 57$	[1, 0, 1, 1]	$-3/8x^2 - 5/4x + 1/4$	-1	0.4303	0.8970
10	$21x^2 - 64x + 37$	[1, 0, 1, 1]	$-3/11x^2 - \frac{10}{11}x + 3/11$	-1	0.3123	0.4504
11	$-71x^2 + 37x + 14$	[1, 0, -1, 1]	$x$	-1	0.2981	0.3906
12	$-92x^2 + 101x - 23$	[0, -1, 1, 1]	$-3/2x^2 - 1/2x + 1$	0	0.1747	0.3287
13	$-70x^2 - 85x + 108$	[1, 1, 1, 1]	$3/4x^2 - 1/2x - 1/2$	-1	0.08724	0.1779
14	$-232x^2 - 69x + 193$	[0, 1, 2, 1]	$-3/2x^2 - 1/2x + 1$	0	0.1166	0.2076
15	$-277x^2 + 425x - 163$	[1, 3, -1, 1]	$-3/2x^2 + x$	1	0.04950	0.07780
16	$65x^2 - 1567x + 1176$	[1, 3, -3, 1]	$3x^2 + x - 2$	1	0.3898	0.6099
17	$342x^2 - 1992x + 1339$	[0, -1, 1, 1]	$-3/4x^2 - x + 1/2$	0	0.4575	0.6777
18	$-2041x^2 - 228x + 1404$	[1, 7, 2, 1]	$-x^2$	1	0.2888	0.4290
19	$-1699x^2 - 2220x + 2743$	[0, 1, 1, 1]	$1/2 - 3/2x$	0	0.3459	0.7052
20	$2448x^2 - 3331x + 1111$	[1, 1, -1, 1]	$3/4x^2 - 1/2x + 1/2$	-1	0.2873	0.4744
21	$4147x^2 - 1111x - 1632$	[0, -1, 1, 1]	$-x$	0	0.3453	0.4236
22	$-1292x^2 - 5779x + 5258$	[1, 1, 1, 1]	$-3/2x^2 + x$	-1	0.08482	0.1593
23	$9179x^2 + 7116x - 11037$	[1, 1, -2, 1]	$3/2x^2 + 1/2x - 1$	-1	0.08961	0.1888
24	$22640x^2 - 20216x + 2063$	[1, 7, 3, 1]	$-3/2x^2 + x$	-1	0.04769	0.08612
25	$39091x^2 - 87775x + 44558$	[1, -3, 3, 1]	$-3x^2 - x + 2$	-1	0.4152	0.6046
26	$89477x^2 + 41154x - 85712$	[1, 7, -2, 1]	$3/4x^2 - 1/2x - 1/2$	-1	0.1885	0.4013
27	$-27746x^2 - 149145x + 132333$	[1, 1, -1, 1]	$3/2x - 1/2$	-1	0.3472	0.6326
28	$190299x^2 - 154612x + 5467$	[1, 2, 1, 1]	$3/4x^2 - 1/2x + 1/2$	-1	0.3184	0.5288
29	$218045x^2 - 5467x - 126866$	[0, -1, 1, 1]	$-x$	0	0.3241	0.4341
30	$-73076x^2 + 344911x - 223512$	[1, -1, -1, 1]	$3/2x^2 - x$	-1	0.1026	0.1503
31	$262192x^2 + 529743x - 568423$	[1, 1, 2, 1]	$-3/2x^2 - 1/2x + 1$	-1	0.08070	0.1680
32	$1516153x^2 - 830615x - 267551$	[1, -7, 3, 1]	$-3/2x^2 + x$	-1	0.07263	0.09669
33	$-3834959x^2 + 4425985x - 1126128$	[1, 3, -3, 1]	$3x^2 + x - 2$	-1	0.3585	0.6509
34	$3205345x^2 + 3567408x - 4693536$	[1, 7, 2, 1]	$-3/4x^2 + 1/2x + 1/2$	-1	0.1761	0.3599
35	$2145767x^2 - 8824008x + 5552113$	[1, -1, -1, 1]	$3/2x - 1/2$	-1	0.4127	0.6005
36	$-9186071x^2 + 9682585x - 1984705$	[1, -1, -1, 1]	$3/8x^2 + 5/4x - 1/4$	-1	0.4695	0.9118
37	$10245649x^2 + 2708831x - 8260944$	[1, -1, -1, 1]	$-\frac{9}{11}x^2 + 3/11x - 2/11$	-1	0.2430	0.4180
38	$11331838x^2 - 18506593x + 7536818$	[1, -1, 0, 1]	$-3/2x^2 + x$	-1	0.1003	0.1545
39	$-26611x^2 + 33606840x - 26043411$	[1, 2, -1, 1]	$3/2x^2 + 1/2x - 1$	-1	0.09579	0.1533
40	$89462071x^2 + 7590040x - 59676862$	[1, 7, 4, 1]	$-3/2x^2 + x + 1$	-1	0.5929	0.8610

41	$89488682x^2 - 26016800x - 33633451$	$[0, -1, 1, 1]$	$-3/4x^2 - 1/4x + 1/2$	0	0.08591
42	$-66638729x^2 - 246244266x + 231010964$	$[2, -6, -1, 1]$	$-3x^2 + 2x$	-2	0.1646
43	$302727670x^2 - 469638579x + 182144211$	$[1, 8, 3, 2]$	$1/2 - 3/2x$	-1	0.3970
44	$-413155175x^2 - 295111019x + 477255230$	$[1, 3, -1, 1]$	$-3/4x^2 + 1/2x + 1/2$	-1	0.1790
45	$951971786x^2 - 890410405x + 118044156$	$[1, 2, -1, 1]$	$3/2x^2 - x$	-1	0.09011
46	$-774905552x^2 + 1901404269x - 1008454561$	$[1, -2, -2, 1]$	$3/2x^2 + 1/2x - 1$	-1	0.1041
47	$-3977335469x^2 - 1667855260x + 3684764382$	$[1, -7, -4, 1]$	$3/2x^2 - x - 1$	-1	0.3979
48	$-4752241021x^2 + 233549009x + 2676309821$	$[0, 1, 1, 1]$	$-3/4x^2 - 1/4x + 1/2$	0	0.08227
49	$2576041415x^2 - 14857101684x + 9971580060$	$[2, -6, 1, 1]$	$3x^2 - 2x$	2	0.2034
50	$-12381328675x^2 - 22418933129x + 24828681744$	$[1, 6, 3, 2]$	$-3/2x^2 - 1/2x + 1$	1	0.1645
51	$-49624351291x^2 - 22451945326x + 47247614873$	$[1, -3, 3, 1]$	$-3/2x^2 - 1/2x + 1$	1	0.1904
52	$15056406681x^2 - 59661955745x + 37210010419$	$[1, 3, -1, 1]$	$3/4x^2 - 1/2x + 1/2$	1	0.1550
53	$64680757972x^2 - 37210010419x - 10037604454$	$[0, -1, 1, 1]$	$-x$	0	0.1412
54	$79737164653x^2 - 96871966164x + 27172405965$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x + 1$	0	0.09176
55	$-146197975867x^2 - 149436724852x + 203781536782$	$[1, 3, 1, 1]$	$-3/2x^2 + x + 1$	-1	0.3547
56	$225935140520x^2 + 52564758688x - 176609130817$	$[0, 1, -1, 1]$	$3/4x^2 + 1/4x - 1/2$	0	0.06314
57	$687521668515x^2 - 752523783986x + 170131632847$	$[2, 7, 0, 1]$	$-3x^2 + 2x + 1$	2	0.5232
58	$461586527995x^2 - 805088542674x + 346740763664$	$[0, -1, 1, 1]$	$-3/4x^2 - 1/2x + 1/2$	0	0.2028
59	$-58524617501x^2 - 1440045452501x + 1151829306338$	$[1, -9, 3, 2]$	$-3/2x^2 - 1/2x + 1$	1	0.1879
60	$1786268577008x^2 + 1957435488169x - 2591874758839$	$[1, 2, -3, 1]$	$3/2x^2 + 1/2x - 1$	1	0.1763
61	$2072281252500x^2 - 3167789412008x + 1210353923839$	$[1, 3, 1, 1]$	$-3/4x^2 + 1/2x - 1/2$	1	0.1484
62	$3858549829508x^2 - 1210353923839x - 1381520835000$	$[0, 1, 1, 1]$	$-x$	0	0.1707
63	$5930831082008x^2 - 4378143335847x - 171166911161$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 1$	0	0.1168
64	$-9275880178033x^2 - 6101997993169x + 10308974417855$	$[1, -4, -1, 1]$	$-3/2x^2 + x$	1	0.04464
65	$39957037055039x^2 - 39169709191776x + 6347764369728$	$[2, 7, 1, 1]$	$3x^2 - 2x$	2	0.1696
66	$30435390500447x^2 - 82300628431679x + 45517473561504$	$[1, 7, 3, 2]$	$-3/2x^2 - 1/2x + 1$	1	0.2084
67	$-37840819841809x^2 - 135494755712878x + 127818101993183$	$[1, -3, 3, 1]$	$-3/2x^2 - 1/2x + 1$	1	0.1636
68	$169104028398189x^2 - 150576838773935x + 15082083061057$	$[1, 3, -1, 1]$	$3/4x^2 - 1/2x + 1/2$	1	0.1436
69	$206944848239998x^2 - 15082083061057x - 112736018932126$	$[0, -1, 1, 1]$	$-x$	0	0.1667
70	$376048876638187x^2 - 165658921834992x - 97653935871069$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x + 1$	0	0.1594
71	$-290031917264978x^2 - 473702812509256x + 541707798473179$	$[1, 4, -1, 1]$	$-3/2x^2 + x$	-1	0.04185
72	$2205187229949493x^2 + 909049588961735x - 2030821221964870$	$[1, 3, -3, 1]$	$3x^2 + x - 2$	-1	0.4017
73	$551012685732834x^2 - 2572529020438049x + 1663479431476314$	$[1, 7, 1, 1]$	$-3/4x^2 + 1/2x - 1/2$	-1	0.3079
74	$2756199915682327x^2 - 1663479431476314x - 367341790488556$	$[0, 1, 1, 1]$	$-x$	0	0.2741
75	$3307212601415161x^2 - 4236008451914363x + 1296137640987758$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 1$	0	0.1875
76	$1363006139933524x^2 - 8191289873823403x + 5532146092902121$	$[1, 0, 3, 1]$	$-3/2x^2 - 1/2x + 1$	-1	0.2031
77	$9951825440060762x^2 + 2011074960427403x - 7543221053329524$	$[1, 3, -2, 1]$	$3/4x^2 - 1/2x - 1/2$	-1	0.1309
78	$21266657020055048x^2 - 4169139952968597x - 9554296013756927$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 1$	0	0.1731
79	$-2555594418845029x^2 - 30820953033811975x + 25435796973023645$	$[1, 3, -1, 1]$	$-3/2x^2 + x$	1	0.04600
80	$81418579756760993x^2 + 81966514202957537x - 112513500013671240$	$[1, 3, -3, 1]$	$3x^2 + x - 2$	1	0.3551

Number:  $\xi = .5982\dots$  Equation:  $3x^3 + x^2 - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$-3x^2 + 2x$	-1	0.04397	0.1319
2	$-4x^2 - x + 2$	$[1, -2, 2, 1]$	$-3x^2 - x + 1$	-1	0.4726	0.6202
3	$-5x^2 + 3x$	$[1, -6, 3, 1]$	$-2x^2 + 1/3x + 1/3$	-1	0.1351	0.1837
4	$5x^2 - 8x + 3$	$[1, 1, -2, 1]$	$3x^2 + x - 1$	-1	0.2323	0.3557
5	$10x^2 - 11x + 3$	$[0, -1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2146	0.4080
6	$-14x^2 - 5x + 8$	$[1, 4, 2, 1]$	$-x^2 + 2/3x + 1/3$	-1	0.1301	0.1892
7	$-13x^2 - 29x + 22$	$[1, 1, 2, 1]$	$1 - 3x$	-1	0.4437	0.7882
8	$25x^2 - 30x + 9$	$[1, -2, 1, 1]$	$3/7x^2 - 5/7x + 3/7$	-1	0.07343	0.1310
9	$-2x^2 - 64x + 39$	$[1, 1, 1, 1]$	$-3x^2 - x + 1$	-1	0.2245	0.3080
10	$23x^2 - 94x + 48$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2367	0.3126
11	$-142x^2 - 7x + 55$	$[1, -5, 2, 1]$	$-x^2 + 2/3x + 1/3$	1	0.2022	0.2330
12	$44x^2 - 252x + 135$	$[1, 2, 0, 1]$	$3x^2 - 2x$	1	0.07823	0.1031
13	$361x^2 + 431x - 387$	$[1, -3, -2, 1]$	$3x^2 + x - 1$	1	0.1537	0.3855
14	$317x^2 + 683x - 522$	$[0, -1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.1887	0.3395
15	$888x^2 - 909x + 226$	$[1, 7, 2, 1]$	$-x^2 + 2/3x - 2/3$	1	0.2091	0.4216
16	$1205x^2 - 226x - 296$	$[0, 1, 1, 1]$	$-x$	0	0.2198	0.2408
17	$995x^2 + 1797x - 1431$	$[1, 2, 0, 1]$	$3x^2 - 2x$	-1	0.06007	0.1166
18	$5288x^2 + 2233x - 3228$	$[1, 2, 2, 1]$	$-3x^2 - x + 1$	-1	0.3494	0.5419
19	$6283x^2 + 4030x - 4659$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2411	0.4728
20	$-2406x^2 + 7887x - 3857$	$[1, 7, -2, 1]$	$x^2 - 2/3x + 2/3$	1	0.2377	0.3167
21	$-8689x^2 + 3857x + 802$	$[0, -1, 1, 1]$	$-x$	0	0.1726	0.2080
22	$-11095x^2 + 11744x - 3055$	$[0, -1, 2, 1]$	$-3x^2 - x + 1$	0	0.2118	0.4151
23	$17854x^2 + 10293x - 12546$	$[1, 2, 0, 1]$	$-2x^2 + 1/3x + 1/3$	-1	0.08953	0.1635
24	$4829x^2 + 47931x - 30400$	$[1, 2, 2, 1]$	$1 - 3x$	-1	0.5127	0.7242
25	$50663x^2 - 42946x + 7561$	$[1, 4, -2, 1]$	$-3/7x^2 + 5/7x - 3/7$	-1	0.08859	0.1542
26	$-27980x^2 + 101170x - 50507$	$[1, 1, -1, 1]$	$3x^2 + x - 1$	-1	0.2373	0.3146
27	$-78643x^2 + 144116x - 58068$	$[0, -1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2353	0.3436
28	$202184x^2 + 35541x - 93609$	$[1, 5, 2, 1]$	$-x^2 + 2/3x + 1/3$	-1	0.1734	0.2159
29	$297745x^2 + 316368x - 295793$	$[1, 1, 2, 1]$	$1 - 3x$	-1	0.3373	0.9309
30	$-185266x^2 + 389402x - 166643$	$[1, -2, 1, 1]$	$3/7x^2 - 5/7x + 3/7$	-1	0.07902	0.1114
31	$314663x^2 + 741311x - 556045$	$[1, 1, 1, 1]$	$-3x^2 - x + 1$	-1	0.1924	0.3353
32	$129397x^2 + 1130713x - 722688$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2187	0.3110
33	$1724004x^2 - 1278733x + 148020$	$[1, -6, 1, 1]$	$-x^2 + 2/3x - 2/3$	1	0.3182	0.4956
34	$-1853401x^2 + 148020x + 574668$	$[0, -1, -1, 1]$	$x$	0	0.2200	0.2425
35	$2426858x^2 + 2854717x - 2576089$	$[1, 3, 1, 1]$	$-3x^2 + 2x - 1$	1	0.4578	1.161
36	$573457x^2 + 3002737x - 2001421$	$[0, 1, 1, 1]$	$-1/3x^2 - 7/9x + 4/9$	0	0.07095	0.1051
37	$6577720x^2 + 4430701x - 5004158$	$[1, 0, 2, 1]$	$-3x^2 - x + 1$	-1	0.2287	0.4648
38	$7151177x^2 + 7433438x - 7005579$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.1428	0.4017
39	$-7287840x^2 + 12009737x - 4576299$	$[1, 6, -2, 1]$	$x^2 - 2/3x + 2/3$	1	0.2332	0.3529
40	$-14439017x^2 + 4576299x + 2429280$	$[0, -1, 1, 1]$	$-x$	0	0.2016	0.2276

41	$20880074x^2 + 19297577x - 19015316$	$[1, 2, 0, 1]$	$-3x^2 + 2x$	1	0.05180	0.1390
42	$-16132583x^2 + 76343525x - 39895390$	$[2, 3, 2, 1]$	$1 - 3x$	2	0.5503	0.7251
43	$-77926022x^2 - 17432819x + 38312893$	$[1, -6, 1, 2]$	$3/7x^2 - 5/7x - 4/7$	1	0.4847	0.6261
44	$-94058605x^2 + 58910706x - 1582497$	$[0, 1, 1, 1]$	$-2x^2 + 1/3x + 1/3$	0	0.1292	0.1799
45	$-89311114x^2 + 154551808x - 60493203$	$[1, 2, 1, 1]$	$-3x^2 - x + 1$	-1	0.2343	0.3484
46	$183369719x^2 - 213462514x + 62075700$	$[0, -1, -1, 1]$	$x^2 + 4/3x - 2/3$	0	0.2184	0.3981
47	$-275538214x^2 - 90893611x + 152969311$	$[1, 4, -2, 1]$	$-x^2 + 2/3x + 1/3$	-1	0.1362	0.1930
48	$278395595x^2 + 549801544x - 428507525$	$[1, -1, -2, 1]$	$3x - 1$	-1	0.4309	0.8032
49	$456050552x^2 - 581476836x + 184644603$	$[1, -2, -1, 1]$	$-3/7x^2 + 5/7x - 3/7$	-1	0.07454	0.1279
50	$-97883257x^2 - 1222171991x + 766121439$	$[1, -1, 1, 1]$	$-3x^2 - x + 1$	-1	0.2212	0.3095
51	$358167295x^2 - 1803648827x + 950766042$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2355	0.3102
52	$2754414869x^2 + 86761346x - 1037527388$	$[1, 5, -2, 1]$	$x^2 - 2/3x - 1/3$	1	0.2055	0.2349
53	$618451333x^2 - 4829469645x + 2667653523$	$[1, 2, 0, 1]$	$-3x^2 + 2x$	1	0.07765	0.1026
54	$7384509236x^2 + 8115574501x - 7497123168$	$[1, 3, -2, 1]$	$3x^2 + x - 1$	1	0.1473	0.3949
55	$6766057903x^2 + 12945044146x - 10164776691$	$[0, -1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.1831	0.3461
56	$-16343762934x^2 + 17661899859x - 4716855713$	$[1, -7, -2, 1]$	$x^2 - 2/3x + 2/3$	1	0.2133	0.4112
57	$-23109820837x^2 + 4716855713x + 5447920978$	$[0, -1, 1, 1]$	$-x$	0	0.2185	0.2397
58	$20916625042x^2 + 34005662793x - 27826676550$	$[1, 2, 0, 1]$	$-3x^2 + 2x$	1	0.05813	0.1190
59	$-104396654692x^2 - 40915714301x + 61832339343$	$[1, 2, -2, 1]$	$3x^2 + x - 1$	1	0.3680	0.5536
60	$-125313279734x^2 - 74921377094x + 89659015893$	$[0, -1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2591	0.4844
61	$39267113253x^2 - 151491355236x + 76569978142$	$[1, -7, -2, 1]$	$x^2 - 2/3x + 2/3$	1	0.2370	0.3134
62	$164580392987x^2 - 76569978142x - 13089037751$	$[0, -1, 1, 1]$	$-x$	0	0.1673	0.2046
63	$203847506240x^2 - 228061333378x + 63480940391$	$[0, -1, 2, 1]$	$-3x^2 - x + 1$	0	0.2158	0.4049
64	$-355023214160x^2 - 190758468489x + 241150371129$	$[1, 2, 0, 1]$	$-2x^2 + 1/3x + 1/3$	-1	0.09567	0.1674
65	$-137771022853x^2 - 914209581876x + 596173585289$	$[1, 2, 2, 1]$	$1 - 3x$	-1	0.5041	0.7299
66	$-940703304694x^2 + 837323956418x - 164264745671$	$[1, 4, -2, 1]$	$-3/7x^2 + 5/7x - 3/7$	-1	0.08254	0.1504
67	$447909067681x^2 - 1942292006783x + 1001588702089$	$[1, 1, -1, 1]$	$3x^2 + x - 1$	-1	0.2363	0.3118
68	$1388612372375x^2 - 2779615963201x + 1165853447760$	$[0, -1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2366	0.3372
69	$-3945469410961x^2 - 612173813352x + 1778027261112$	$[1, 5, 2, 1]$	$-x^2 + 2/3x + 1/3$	-1	0.1784	0.2189
70	$-6054417381866x^2 - 5946255596688x + 5723496672073$	$[1, 1, 2, 1]$	$1 - 3x$	-1	0.3338	0.9541
71	$3225133812431x^2 - 7501523933185x + 3333295597609$	$[1, -2, 1, 1]$	$3/7x^2 - 5/7x + 3/7$	-1	0.07925	0.1095
72	$-6774752980396x^2 - 14059953343225x + 10834819530794$	$[1, 1, 1, 1]$	$-3x^2 - x + 1$	-1	0.1870	0.3415
73	$-3549619167965x^2 - 21561477276410x + 14168115128403$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.2149	0.3136
74	$-32179973236848x^2 + 25002934659197x - 3441457382787$	$[1, -6, 1, 1]$	$-x^2 + 2/3x - 2/3$	1	0.2996	0.4839
75	$35729592404813x^2 - 3441457382787x - 10726657745616$	$[0, -1, -1, 1]$	$x$	0	0.2209	0.2429
76	$-49603583721139x^2 - 53741450513258x + 49897707533216$	$[1, 3, 1, 1]$	$-3x^2 + 2x - 1$	1	0.4384	1.190
77	$-13873991316326x^2 - 57182907896045x + 39171049787600$	$[0, 1, 1, 1]$	$-1/3x^2 - 7/9x + 4/9$	0	0.06953	0.1063
78	$-131387140679126x^2 - 82479966367319x + 96353957683645$	$[1, 0, 2, 1]$	$-3x^2 - x + 1$	-1	0.2466	0.4764
79	$-145261131995452x^2 - 139662874263364x + 135525007471245$	$[0, 1, 1, 1]$	$-x^2 - 4/3x + 2/3$	0	0.1473	0.4117
80	$129926749739157x^2 - 231878965154890x + 92216090891526$	$[1, 6, -2, 1]$	$x^2 - 2/3x + 2/3$	1	0.2349	0.3458

Number:  $\xi = .8029\dots$  Equation:  $3x^3 + x^2 + x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 1/3x + 2/3$	0	0.1583	0.3165
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 - 1/3x + 2/3$	-1	0.1555	0.2332
3	$4x^2 - 2x - 1$	[1, 4, -1, 1]	$1/2 - 3/2x$	-1	0.4379	0.5748
4	$5x^2 - 4x$	[0, 1, 1, 1]	$-\frac{9}{11}x^2 - \frac{6}{11}x + \frac{6}{11}$	0	0.2873	0.4712
5	$-4x^2 - 8x + 9$	[2, 6, -3, 1]	$-x^2 + 2/3x$	2	0.1018	0.2023
6	$13x^2 + 7x - 14$	[1, 2, -3, 2]	$x^2 + 1/3x - 2/3$	1	0.06048	0.1277
7	$38x^2 - 33x + 2$	[1, 8, 5, 1]	$-3/2x^2 + x + 1/2$	1	0.1497	0.2630
8	$-56x^2 - 36x + 65$	[1, -4, 0, 1]	$-3/5x^2 + x - 1/5$	1	0.09466	0.1939
9	$-101x^2 + 106x - 20$	[1, -3, 0, 1]	$-x^2 + 2/3x$	1	0.02753	0.05350
10	$378x^2 + 470x - 621$	[2, -9, 2, 1]	$-3x^2 + 2x$	2	0.3099	0.6023
11	$-344x^2 + 747x - 378$	[1, 10, 1, 2]	$-x$	1	0.3600	0.5286
12	$965x^2 - 918x + 115$	[1, 1, -2, 1]	$1/3x^2 + \frac{10}{9}x - 5/9$	1	0.3313	0.6358
13	$999x^2 + 299x - 884$	[1, 1, 1, 1]	$1/2x^2 - 1/3x + 1/2$	1	0.1969	0.3688
14	$34x^2 + 1217x - 999$	[0, -1, 1, 1]	$-x$	0	0.2346	0.3929
15	$1033x^2 + 1516x - 1883$	[0, -1, 2, 1]	$-x^2 - 1/3x + 2/3$	0	0.1379	0.2688
16	$-1241x^2 + 4099x - 2491$	[1, -3, 2, 1]	$1/2 - 3/2x$	-1	0.4603	0.6725
17	$4374x^2 + 1666x - 4157$	[1, 3, -1, 1]	$-\frac{6}{11}x^2 + \frac{7}{11}x + 4/11$	-1	0.2741	0.5615
18	$-208x^2 + 5615x - 4374$	[1, 1, 0, 1]	$-x$	-1	0.3627	0.5832
19	$-5823x^2 + 8048x - 2708$	[1, -1, 1, 1]	$2/3 - x$	-1	0.1015	0.1661
20	$9989x^2 - 767x - 5823$	[1, 1, -1, 1]	$x$	-1	0.1255	0.1689
21	$15812x^2 - 8815x - 3115$	[0, -1, 1, 1]	$-x^2 - 1/3x + 2/3$	0	0.07722	0.1042
22	$16456x^2 + 34739x - 38498$	[1, 4, 4, 1]	$3/2x^2 - x + 1/2$	-1	0.3039	0.6070
23	$644x^2 + 43554x - 35383$	[0, -1, 1, 1]	$-1/3x^2 - \frac{7}{9}x + 1/3$	0	0.1968	0.3268
24	$73237x^2 - 36027x - 18283$	[1, 4, 0, 1]	$-3/5x^2 + x - 1/5$	-1	0.1203	0.1569
25	$17744x^2 + 121847x - 109264$	[1, 2, 0, 1]	$x^2 - 2/3x$	-1	0.03641	0.06645
26	$-381024x^2 - 421573x + 584069$	[1, -4, -5, 1]	$3x^2 + x - 2$	-1	0.6162	1.199
27	$312309x^2 - 589230x + 271760$	[1, -8, -1, 1]	$1/2x^2 - 1/3x + 1/2$	-1	0.3478	0.5196
28	$398768x^2 + 543420x - 693333$	[1, -1, 0, 1]	$x^2$	-1	0.3104	0.6038
29	$-1005642x^2 + 756887x + 40549$	[1, -2, 0, 1]	$2/3x^2 - \frac{7}{9}x - 1/9$	-1	0.1997	0.3132
30	$-1092101x^2 - 375763x + 1005642$	[1, -1, 1, 1]	$-x$	-1	0.1891	0.3719
31	$2097743x^2 - 381124x - 1046191$	[0, -1, -1, 1]	$x^2 + 1/3x - 2/3$	0	0.1713	0.2196
32	$2669429x^2 + 2427596x - 3669710$	[1, 1, -3, 1]	$1/2 - 3/2x$	-1	0.3693	0.7263
33	$-4715901x^2 + 3195205x + 474505$	[1, -3, 1, 1]	$\frac{6}{11}x^2 - \frac{7}{11}x - 4/11$	-1	0.3189	0.4686
34	$4767172x^2 + 2046472x - 4715901$	[1, 1, 0, 1]	$x$	-1	0.2617	0.5659
35	$2720700x^2 + 7669273x - 7911106$	[1, 1, 1, 1]	$2/3 - x$	-1	0.09814	0.2020
36	$-6762373x^2 + 8818006x - 2720700$	[1, -1, 1, 1]	$-x$	-1	0.09790	0.1648
37	$-4041673x^2 + 16487279x - 10631806$	[0, 1, 1, 1]	$-x^2 - 1/3x + 2/3$	0	0.08403	0.1240
38	$38657791x^2 + 13938819x - 36109331$	[1, 5, -3, 1]	$-3/2x^2 + x + 1/2$	1	0.1552	0.3108
39	$-22929065x^2 + 74767122x - 45247924$	[1, 4, 0, 1]	$3/5x^2 - x + 1/5$	1	0.1255	0.1832
40	$-120015046x^2 - 25329178x + 97696187$	[1, -3, 0, 1]	$x^2 - 2/3x$	1	0.03535	0.06035

41	$284057604x^2 + 463761963x - 555437512$	$[1, 5, -3, 1]$	$3x - 2$	1	0.3094	0.6
42	$369076095x^2 - 650123380x + 284057604$	$[1, -8, -2, 1]$	$x$	1	0.3403	0.5
43	$-773148745x^2 + 161032239x + 369076095$	$[1, -1, -1, 1]$	$x$	1	0.3864	0.4
44	$1057206349x^2 + 302729724x - 924513607$	$[1, 0, -1, 1]$	$1/3x^2 + \frac{10}{9}x - 5/9$	1	0.3984	0.7
45	$85018491x^2 - 1113885343x + 839495116$	$[1, -1, -1, 1]$	$-1/2x^2 + 1/3x - 1/2$	1	0.2453	0.3
46	$1142224840x^2 - 811155619x - 85018491$	$[0, 1, 1, 1]$	$-x$	0	0.2071	0.3
47	$1227243331x^2 - 1925040962x + 754476625$	$[0, 1, 2, 1]$	$-x^2 - 1/3x + 2/3$	0	0.1444	0.2
48	$-4114804774x^2 + 1480613753x + 1463626684$	$[1, -3, -2, 1]$	$3/2x - 1/2$	1	0.4647	0.5
49	$-4632898046x^2 - 1700010037x + 4351188127$	$[1, 2, 2, 1]$	$-3/11x^2 - \frac{13}{11}x + 2/11$	1	0.5555	1.1
50	$-3405654715x^2 - 3625050999x + 5105664752$	$[1, 0, 1, 1]$	$-1/3x^2 - \frac{7}{9}x + 1/3$	1	0.3413	0.6
51	$-5342048105x^2 + 3405654715x + 709150059$	$[1, 1, -1, 1]$	$-\frac{9}{10}x^2 - 3/10$	1	0.3289	0.4
52	$6051198164x^2 - 8511319467x + 2932888009$	$[1, 0, -2, 1]$	$x^2 + 1/3x - 2/3$	1	0.2050	0.3
53	$-2696504656x^2 - 8730715751x + 8747702820$	$[1, 1, 1, 1]$	$-1/2x^2 + 1/3x + 1/2$	1	0.09643	0.2
54	$-11444207476x^2 - 8950112035x + 14562517631$	$[0, -1, 2, 1]$	$-x^2 - 1/3x + 2/3$	0	0.06562	0.1
55	$-29546840761x^2 + 37450932583x - 11022401977$	$[1, -4, 0, 1]$	$-3/2x^2 + x - 1/2$	1	0.2882	0.4
56	$-40991048237x^2 + 28500820548x + 3540115654$	$[0, 1, 1, 1]$	$-1/3x^2 - \frac{7}{9}x + 1/3$	0	0.1747	0.2
57	$-48473334560x^2 - 44531163891x + 66997773344$	$[1, 4, 0, 1]$	$3/5x^2 - x + 1/5$	-1	0.1008	0.1
58	$-111528937235x^2 + 94452573679x - 3942170669$	$[1, 2, 0, 1]$	$-x^2 + 2/3x$	-1	0.03056	0.05
59	$-295184233044x^2 - 532683981281x + 617944532742$	$[2, 9, -2, 1]$	$3x^2 - 2x$	-2	0.3077	0.6
60	$-434289236933x^2 + 716339277090x - 295184233044$	$[1, 10, -1, 2]$	$x$	-1	0.3320	0.5
61	$913128765786x^2 + 443481259151x - 944647003109$	$[1, -2, -1, 1]$	$-2/3x^2 + \frac{7}{9}x + 1/9$	-1	0.1766	0.3
62	$139105003889x^2 - 1249023258371x + 913128765786$	$[1, -1, 0, 1]$	$x$	-1	0.2479	0.3
63	$-774023761897x^2 - 1692504517522x + 1857775768895$	$[0, -1, 1, 1]$	$-x^2 - 1/3x + 2/3$	0	0.1346	0.2
64	$-1764733014386x^2 + 4019927793052x - 2089923527293$	$[1, -1, -3, 1]$	$3/2x - 1/2$	-1	0.4440	0.6
65	$-3947699296188x^2 - 2306609017885x + 4396532545178$	$[1, 3, 1, 1]$	$\frac{6}{11}x^2 - \frac{7}{11}x - 4/11$	-1	0.2777	0.5
66	$990709252489x^2 - 5712432310574x + 3947699296188$	$[1, -1, 0, 1]$	$-x$	-1	0.3764	0.5
67	$-6703141563063x^2 + 7425751085741x - 1641090278303$	$[1, 1, -1, 1]$	$x - 2/3$	-1	0.08663	0.1
68	$-9660131606762x^2 - 593290242718x + 6703141563063$	$[1, 1, 1, 1]$	$-x$	-1	0.1177	0.1
69	$-16363273169825x^2 + 6832460843023x + 5062051284760$	$[0, 1, 1, 1]$	$-x^2 - 1/3x + 2/3$	0	0.08293	0.1
70	$-10837250922307x^2 - 37788597624410x + 37324626661652$	$[1, -4, 4, 1]$	$3/2x^2 - x + 1/2$	1	0.2937	0.6
71	$5526022247518x^2 - 44621058467433x + 32262575376892$	$[0, -1, 1, 1]$	$-1/3x^2 - \frac{7}{9}x + 1/3$	0	0.2072	0.3
72	$-75113224286062x^2 + 26736553129374x + 26951346702103$	$[1, 4, 0, 1]$	$-3/5x^2 + x - 1/5$	1	0.1269	0.1
73	$214793572729x^2 - 127030714559276x + 101849777415436$	$[1, 2, 0, 1]$	$x^2 - 2/3x$	1	0.03968	0.06
74	$381736524396015x^2 - 559395967792131x + 203055174112685$	$[1, -5, 3, 1]$	$2 - 3x$	1	0.3144	0.5
75	$304690157955392x^2 + 610617016370727x - 686641475924136$	$[1, -9, 1, 1]$	$x^2$	1	0.3053	0.6
76	$991331633879528x^2 + 534807350390047x - 1068378000320151$	$[1, 1, 2, 1]$	$-x^2 - 1/3x + 2/3$	1	0.1815	0.3
77	$2059709634199679x^2 - 100398283382764x - 1247059350603481$	$[1, -1, 2, 1]$	$-x^2 - 1/3x + 2/3$	1	0.1657	0.2
78	$2210307059273825x^2 + 2850244701313679x - 3713094126601259$	$[1, 4, -1, 1]$	$1/2 - 3/2x$	1	0.3792	0.7
79	$4270016693473504x^2 + 2749846417930915x - 4960153477204740$	$[0, 1, 1, 1]$	$-\frac{9}{11}x^2 - \frac{6}{11}x + \frac{6}{11}$	0	0.2841	0.5
80	$7709999895135655x^2 - 8083509103457527x + 1520170275542589$	$[2, 6, -3, 1]$	$-x^2 + 2/3x$	-2	0.08250	0.1

Number:  $\xi = .4694\dots$  Equation:  $3x^3 + x^2 + x - 1 = 0$ . “All” optimal polynomials.

1	$2x^2 - x$	$[0, -1, 2, 1]$	$-3x^2 - x + 1$	0	0.1149	0.1437
2	$4x^2 - 4x + 1$	$[1, -4, 4, 1]$	$-3x^2 - x + 1$	-1	0.05994	0.1236
3	$-5x^2 + 13x - 5$	$[1, 7, -5, 1]$	$3x^2 + x - 1$	-1	0.08256	0.1070
4	$5x^2 + 36x - 18$	$[1, 7, 5, 1]$	$-3x^2 - x + 1$	-1	0.08255	0.1048
5	$64x^2 + 85x - 54$	$[1, -7, 5, 1]$	$-3x^2 - x + 1$	-1	0.06001	0.1183
6	$-290x^2 - 160x + 139$	$[1, 7, -5, 1]$	$3x^2 + x - 1$	-1	0.09109	0.1397
7	$-607x^2 + 858x - 269$	$[3, 22, 7, 1]$	$-3x^2 + 2x - 1$	-3	0.5758	0.9206
8	$100x^2 + 867x - 429$	$[1, -5, 2, 3]$	$-3/2x^2 - 1/2x$	-1	0.3323	0.4181
9	$-897x^2 + 698x - 130$	$[1, 1, 0, 1]$	$3/4x^2 - 1/2x + 3/4$	-1	0.2421	0.3938
10	$-997x^2 - 169x + 299$	$[0, -1, 1, 1]$	$-x$	0	0.1404	0.1570
11	$1487x^2 + 2063x - 1296$	$[1, 3, -2, 1]$	$3x - 1$	-1	0.2453	0.4696
12	$-1404x^2 + 2423x - 828$	$[1, 2, 1, 1]$	$3/4x^2 - 1/2x + 3/4$	-1	0.2303	0.3346
13	$-2891x^2 + 360x + 468$	$[0, -1, 1, 1]$	$-x$	0	0.1539	0.1603
14	$-2567x^2 - 6718x + 3719$	$[1, -2, -1, 1]$	$3x^2 - 2x + 1$	-1	0.6002	0.8718
15	$-6862x^2 - 3935x + 3359$	$[1, 1, 1, 1]$	$-3/2x^2 - 1/2x$	-1	0.3539	0.5552
16	$-324x^2 + 7078x - 3251$	$[1, -1, 0, 1]$	$-3/4x^2 + 1/2x - 3/4$	-1	0.2563	0.3109
17	$-7186x^2 + 3143x + 108$	$[0, 1, 1, 1]$	$-x$	0	0.1240	0.1477
18	$-14696x^2 + 13364x - 3035$	$[0, 2, 3, 1]$	$-3x^2 - x + 1$	0	0.06762	0.1264
19	$20287x^2 - 44459x + 16399$	$[1, -3, -7, 1]$	$3x^2 + x - 1$	-1	0.08070	0.1085
20	$-8623x^2 - 125604x + 60858$	$[1, 7, 5, 1]$	$-3x^2 - x + 1$	-1	0.08399	0.1041
21	$-199820x^2 - 303443x + 186462$	$[1, -7, 5, 1]$	$-3x^2 - x + 1$	-1	0.06392	0.1158
22	$959026x^2 + 593528x - 489905$	$[1, 7, -5, 1]$	$3x^2 + x - 1$	-1	0.08326	0.1369
23	$2291273x^2 - 2897862x + 855403$	$[3, 22, 7, 1]$	$-3x^2 + 2x - 1$	-3	0.5490	0.9400
24	$-137468x^2 - 3022269x + 1448931$	$[1, -5, 2, 3]$	$-3/2x^2 - 1/2x$	-1	0.3375	0.4158
25	$3250299x^2 - 2304334x + 365498$	$[1, 1, 0, 1]$	$3/4x^2 - 1/2x + 3/4$	-1	0.2657	0.4025
26	$3387767x^2 + 717935x - 1083433$	$[0, -1, 1, 1]$	$-x$	0	0.1355	0.1554
27	$-4621729x^2 - 7356001x + 4471200$	$[1, 3, -2, 1]$	$3x - 1$	-1	0.2607	0.4600
28	$5404104x^2 - 8224465x + 2669832$	$[1, 2, 1, 1]$	$3/4x^2 - 1/2x + 3/4$	-1	0.2218	0.3409
29	$10025833x^2 - 868464x - 1801368$	$[0, -1, 1, 1]$	$-x$	0	0.1547	0.1609
30	$22657058x^2 + 14561473x - 11827201$	$[1, -3, 1, 1]$	$1 - 3x$	-1	0.3225	0.5436
31	$2798712x^2 - 24522866x + 10894297$	$[1, 2, -1, 1]$	$-3/4x^2 + 1/2x - 3/4$	-1	0.2571	0.3112
32	$25455770x^2 - 9961393x - 932904$	$[0, 1, 1, 1]$	$-x$	0	0.1301	0.1501
33	$52541237x^2 + 52777348x - 36350067$	$[1, 2, -1, 1]$	$3x^2 - 2x + 1$	1	0.4037	0.9954
34	$53710252x^2 - 44445652x + 9028489$	$[1, 2, 0, 1]$	$-3/4x^2 + 1/2x - 1/4$	1	0.07549	0.1293
35	$80335037x^2 - 151630045x + 53474141$	$[1, -1, 2, 1]$	$-3x^2 - x + 1$	1	0.07846	0.1102
36	$-247651x^2 + 437069268x - 205104186$	$[1, 5, -4, 1]$	$3x^2 + x - 1$	1	0.08500	0.1037
37	$614817256x^2 + 1079490373x - 642173454$	$[1, 7, 5, 1]$	$-3x^2 - x + 1$	1	0.06761	0.1135
38	$3156154874x^2 + 2186336944x - 1721663827$	$[1, -7, 5, 1]$	$-3x^2 - x + 1$	1	0.07536	0.1340
39	$-8567847439x^2 + 9755637402x - 2691481757$	$[3, 22, -7, 1]$	$3x^2 - 2x + 1$	3	0.5200	0.9607
40	$-246701084x^2 + 10507483299x - 4877818701$	$[1, 5, 2, 3]$	$-3/2x^2 - 1/2x$	1	0.3410	0.4146



41	$11477301229x^2 + 2938182841x - 3908000771$	$[1, -1, 1, 1]$	$-3/4x^2 + 1/2x + 1/4$	1	0.0
42	$14140053935x^2 + 26139486383x - 15385302000$	$[1, 1, 2, 1]$	$1 - 3x$	1	0.0
43	$-20538550836x^2 + 27832421159x - 8539118388$	$[1, -3, 1, 1]$	$3/4x^2 - 1/2x + 3/4$	1	0.0
44	$-34678604771x^2 + 1692934776x + 6846183612$	$[0, -1, 1, 1]$	$-x$	0	0.0
45	$74436013870x^2 + 53524220831x - 41524788383$	$[1, 3, -1, 1]$	$3x - 1$	1	0.0
46	$-15459746508x^2 + 84742511542x - 36371539547$	$[1, 2, 1, 1]$	$3/4x^2 - 1/2x + 3/4$	1	0.0
47	$-89895760378x^2 + 31218290711x + 5153248836$	$[0, -1, 1, 1]$	$-x$	0	0.0
48	$-168090886003x^2 - 190098018428x + 126267299925$	$[1, -2, -1, 1]$	$3x^2 - 2x + 1$	1	0.0
49	$-195251267264x^2 + 147179092964x - 26065041875$	$[1, 2, 0, 1]$	$-3/4x^2 + 1/2x - 1/4$	1	0.0
50	$-312307408903x^2 + 515674495067x - 173244134839$	$[1, -1, 2, 1]$	$-3x^2 - x + 1$	1	0.0
51	$104882413289x^2 - 1516900533876x + 688918629906$	$[1, 5, -4, 1]$	$3x^2 + x - 1$	1	0.0
52	$-1856991063140x^2 - 3827602110947x + 2205819163782$	$[1, 7, 5, 1]$	$-3x^2 - x + 1$	1	0.0
53	$-10331439617626x^2 - 8004032322536x + 6033421274729$	$[1, -7, 5, 1]$	$-3x^2 - x + 1$	1	0.0
54	$31780921174169x^2 - 32729721784710x + 8360828569819$	$[3, 22, -7, 1]$	$3x^2 - 2x + 1$	3	0.0
55	$3349217732356x^2 - 36435735764349x + 16364860892355$	$[1, 5, 2, 3]$	$-3/2x^2 - 1/2x$	1	0.0
56	$-38763143059439x^2 - 11710046302175x + 14037453597265$	$[1, -1, 1, 1]$	$-3/4x^2 + 1/2x + 1/4$	1	0.0
57	$-42396147212353x^2 - 92585550153409x + 52800596656704$	$[1, 1, 2, 1]$	$1 - 3x$	1	0.0
58	$77242499698320x^2 - 93891147011233x + 27053096757264$	$[1, -3, 1, 1]$	$3/4x^2 - 1/2x + 3/4$	1	0.0
59	$-119638646910673x^2 + 1305596857824x + 25747499899440$	$[0, 1, -1, 1]$	$x$	0	0.0
60	$-243194084394818x^2 - 195575549751169x + 145386146810113$	$[1, 3, -1, 1]$	$1 - 3x$	-1	0.0
61	$73325709124848x^2 - 292077890478050x + 120944243768497$	$[1, -2, 1, 1]$	$3/4x^2 - 1/2x + 3/4$	-1	0.0
62	$316519793519666x^2 - 96502340726881x - 24441903041616$	$[0, -1, 1, 1]$	$-x$	0	0.0
63	$-532701106575461x^2 - 681923393122564x + 437464037288163$	$[1, 2, 1, 1]$	$-3x^2 + 2x - 1$	-1	0.0
64	$706365296164180x^2 - 485082571931812x + 72060437685265$	$[1, 2, 0, 1]$	$3/4x^2 - 1/2x + 1/4$	-1	0.0
65	$1196549279272565x^2 - 1748590877713069x + 557143009617077$	$[1, 1, 2, 1]$	$-3x^2 - x + 1$	-1	0.0
66	$721669529693899x^2 - 5250874044315780x + 2305733887330146$	$[1, -5, 4, 1]$	$-3x^2 - x + 1$	-1	0.0
67	$5473862602602640x^2 + 13529151505655605x - 7556607931645926$	$[1, 7, -5, 1]$	$3x^2 + x - 1$	-1	0.0
68	$33617549000143058x^2 + 29141048340354496x - 21085759437301531$	$[1, 7, 5, 1]$	$-3x^2 - x + 1$	-1	0.0
69	$117062874332825023x^2 - 109406616874889178x + 25562260097090093$	$[3, -22, 7, 1]$	$-3x^2 + 2x - 1$	-3	0.0
70	$-20188047020777372x^2 + 126015875652402147x - 54703308437444589$	$[1, 5, -2, 3]$	$3/2x^2 + 1/2x$	-1	0.0
71	$130492376312190709x^2 + 45750307117867465x - 50226807777656027$	$[1, 1, 1, 1]$	$-3/4x^2 + 1/2x + 1/4$	-1	0.0
72	$287931344686570476x^2 - 315688061061826007x + 84742069194323244$	$[1, -2, 1, 1]$	$-3x^2 + 2x$	-1	0.0
73	$-411665175957349499x^2 - 11235045701200248x + 95977114895523492$	$[1, -3, 0, 1]$	$x$	-1	0.0
74	$789625214811098254x^2 + 710831566345120223x - 507642290852872991$	$[1, -2, -3, 1]$	$3x - 1$	-1	0.0
75	$321636481790171220x^2 - 1004049536004545734x + 400430130256149251$	$[1, -2, -1, 1]$	$-3/4x^2 + 1/2x - 3/4$	-1	0.0
76	$1111261696601269474x^2 - 293217969659425511x - 107212160596723740$	$[0, 1, 1, 1]$	$-x$	0	0.0
77	$-1669279123789374787x^2 - 2436947714395986428x + 1511691826857418725$	$[1, -2, 1, 1]$	$-3x^2 + 2x - 1$	1	0.0
78	$2544159874992710168x^2 - 1590485475323396756x + 186005809062701771$	$[1, 2, 0, 1]$	$3/4x^2 - 1/2x + 1/4$	1	0.0
79	$4530302322797315023x^2 - 5911136634702205451x + 1776491284386098527$	$[1, 1, 2, 1]$	$-3x^2 - x + 1$	1	0.0
80	$3731130792436334465x^2 - 18129066876587824452x + 7687627919088303978$	$[1, -5, 4, 1]$	$-3x^2 - x + 1$	1	0.0

Number:  $\xi = .7103\dots$  Equation:  $3x^3 + x^2 + 2x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 1/3x + 1/3$	0	0.2058	0.4116
2	$-2x^2 + 1$	[1, 0, -2, 1]	$x - 2/3$	-1	0.03589	0.04487
3	$-6x^2 - 7x + 8$	[3, 7, 8, 1]	$2 - 3x$	-3	0.07513	0.1749
4	$5x^2 - 12x + 6$	[1, -22, 5, 3]	$-x$	-1	0.1201	0.1709
5	$-x^2 - 19x + 14$	[0, 1, 1, 1]	$-x^2 - 1/3x + 1/3$	0	0.1228	0.1898
6	$-48x^2 - 18x + 37$	[1, 6, -2, 1]	$-2x^2 + 1/3x$	1	0.6051	1.050
7	$3x^2 - 50x + 34$	[1, 2, 0, 1]	$3/7x^2 - 2/7x + 4/7$	1	0.3839	0.5628
8	$-49x^2 - 37x + 51$	[1, 1, 0, 1]	$-x^2$	1	0.2015	0.4936
9	$-54x^2 + 82x - 31$	[1, -2, 0, 1]	$-1/3x^2 + \frac{8}{9}x + 1/9$	1	0.2992	0.4717
10	$-100x^2 - 5x + 54$	[1, 1, 1, 1]	$-x$	1	0.3160	0.4089
11	$-95x^2 - 124x + 136$	[1, -1, 1, 1]	$2/3 - x$	1	0.02549	0.05911
12	$-788x^2 - 347x + 644$	[2, 3, 4, 1]	$-3x^2 - x + 2$	2	0.1914	0.3564
13	$87x^2 - 846x + 557$	[1, 22, -3, 2]	$3/7x^2 - 2/7x + 4/7$	1	0.1290	0.1863
14	$875x^2 - 499x - 87$	[0, -1, 1, 1]	$-x$	0	0.09803	0.1309
15	$962x^2 - 1345x + 470$	[0, -1, 2, 1]	$-x^2 - 1/3x + 1/3$	0	0.09448	0.1544
16	$2799x^2 - 3189x + 853$	[0, -3, 5, 1]	$-x^2 - 4/3x + 1$	0	0.2398	0.4417
17	$-4122x^2 - 1013x + 2799$	[1, 5, -1, 1]	$x$	1	0.2846	0.4330
18	$-361x^2 - 5547x + 4122$	[1, 1, 1, 1]	$-x$	1	0.3660	0.5697
19	$-4483x^2 - 6560x + 6921$	[0, 1, 1, 1]	$-x^2 - 1/3x + 1/3$	0	0.2324	0.5388
20	$11404x^2 + 4384x - 8867$	[1, -2, -1, 1]	$x^2 + 1/3x - 1/3$	-1	0.2574	0.4511
21	$13481x^2 - 9899x + 230$	[1, 2, 2, 1]	$-1/3x^2 + 5/9x + 2/3$	-1	0.3213	0.4946
22	$2077x^2 - 14283x + 9097$	[0, -1, 1, 1]	$-\frac{6}{11}x^2 + 1/11x + 1/11$	0	0.04317	0.06159
23	$-49080x^2 + 51703x - 11963$	[1, 2, -5, 1]	$3x - 2$	-1	0.07400	0.1446
24	$-68063x^2 - 20757x + 49080$	[1, 8, 2, 1]	$-x$	-1	0.09108	0.1469
25	$-117143x^2 + 30946x + 37117$	[0, 1, 1, 1]	$-x^2 - 1/3x + 1/3$	0	0.1101	0.1288
26	$-302349x^2 + 41135x + 123314$	[0, 2, 3, 1]	$-x^2 - 4/3x + 1$	0	0.3310	0.3922
27	$-141918x^2 - 324880x + 302349$	[1, -4, 5, 1]	$-x$	-1	0.2715	0.5584
28	$-277574x^2 + 396961x - 141918$	[1, 1, -1, 1]	$x$	-1	0.2879	0.4654
29	$-444267x^2 - 283745x + 425663$	[1, 1, 0, 1]	$1/3x^2 - \frac{8}{9}x - 1/9$	-1	0.2071	0.4816
30	$135656x^2 - 721841x + 444267$	[1, -1, 0, 1]	$-x$	-1	0.3883	0.5491
31	$-857497x^2 + 835057x - 160522$	[1, 1, -1, 1]	$x - 2/3$	-1	0.02389	0.04739
32	$-5077662x^2 + 436686x + 2251447$	[3, 4, 5, 1]	$2 - 3x$	-3	0.1096	0.1320
33	$-2129240x^2 - 5636555x + 5077662$	[1, -22, 5, 3]	$-x$	-1	0.09592	0.1875
34	$-7206902x^2 - 5199869x + 7329109$	[0, 1, 1, 1]	$-x^2 - 1/3x + 1/3$	0	0.06616	0.1634
35	$-16543044x^2 - 16036293x + 19735880$	[0, 2, 3, 1]	$-x^2 - 4/3x + 1$	0	0.2166	0.5118
36	$-10521945x^2 + 30764576x - 16543044$	[1, 4, -5, 1]	$x$	-1	0.3738	0.5256
37	$-34271891x^2 + 9528414x + 10521945$	[1, 1, 1, 1]	$-x$	-1	0.3295	0.3860
38	$-44793836x^2 + 40292990x - 6021099$	[0, 1, 1, 1]	$-x^2 - 1/3x + 1/3$	0	0.2296	0.4195
39	$-46314089x^2 - 84073324x + 83079793$	[2, -2, 1, 1]	$x^2 - 2/3x + 1/3$	2	0.2947	0.6718
40	$-85086826x^2 + 3020535x + 40779770$	[1, 2, 1, 2]	$-\frac{6}{11}x^2 + 1/11x + 1/11$	1	0.03613	0.04447

41	$264322083x^2 + 286471892x - 336820018$	$[1, -3, -2, 1]$	$3x - 2$	1	0.07405
42	$-198364531x^2 + 513034740x - 264322083$	$[1, 8, 2, 1]$	$-x$	1	0.1220
43	$65957552x^2 + 799506632x - 601142101$	$[0, 1, 1, 1]$	$-x^2 - 1/3x + 1/3$	0	0.1209
44	$-2067748386x^2 - 689741337x + 1533055712$	$[1, -6, 2, 1]$	$2x^2 - 1/3x$	-1	0.6244
45	$-66449427x^2 + 2112048004x - 1466606285$	$[1, 2, 0, 1]$	$-3/7x^2 + 2/7x - 4/7$	-1	0.3809
46	$2133705938x^2 + 1489247969x - 2134197813$	$[1, -1, 0, 1]$	$-x^2$	-1	0.1962
47	$-2200647240x^2 + 3534354671x - 1400156858$	$[1, 2, 0, 1]$	$1/3x^2 - \frac{8}{9}x - 1/9$	-1	0.3091
48	$4267903751x^2 + 66941302x - 2200647240$	$[1, 1, -1, 1]$	$x$	-1	0.3201
49	$4200962449x^2 + 5090543942x - 5735001911$	$[1, 1, 1, 1]$	$2/3 - x$	-1	0.02520
50	$-34008855529x^2 - 13494290332x + 26741635648$	$[2, -3, -4, 1]$	$3x^2 + x - 2$	-2	0.1983
51	$-2668744479x^2 + 35788018515x - 24072891169$	$[1, 22, 3, 2]$	$-3/7x^2 + 2/7x - 4/7$	-1	0.1284
52	$-36677600008x^2 + 22293728183x + 2668744479$	$[0, 1, 1, 1]$	$-x$	0	0.09578
53	$-39346344487x^2 + 58081746698x - 21404146690$	$[0, 1, 2, 1]$	$-x^2 - 1/3x + 1/3$	0	0.09797
54	$137567640086x^2 + 94855723785x - 136774435672$	$[1, -4, 1, 1]$	$-x^2 + 5/3x$	-1	0.3734
55	$-115370288982x^2 + 138457221579x - 40139548901$	$[1, 2, 0, 1]$	$\frac{3}{17}x^2 - \frac{11}{17}x - \frac{5}{17}$	-1	0.2514
56	$-176913984573x^2 - 36773977087x + 115370288982$	$[1, -1, 0, 1]$	$-x$	-1	0.2915
57	$22197351104x^2 + 233312945364x - 176913984573$	$[1, 1, 0, 1]$	$x$	-1	0.3601
58	$199111335677x^2 + 270086922451x - 292284273555$	$[0, -1, 1, 1]$	$-x^2 - 1/3x + 1/3$	0	0.2305
59	$-491395609232x^2 - 168403677959x + 367515013636$	$[1, 2, -1, 1]$	$x^2 + 1/3x - 1/3$	-1	0.2658
60	$-562371196006x^2 + 436679434348x - 26452504411$	$[1, 2, 2, 1]$	$-1/3x^2 + 5/9x + 2/3$	-1	0.3109
61	$-70975586774x^2 + 605083112307x - 393967518047$	$[0, -1, 1, 1]$	$-\frac{6}{11}x^2 + 1/11x + 1/11$	0	0.04308
62	$2028176097243x^2 - 2250117605207x + 575008275772$	$[1, 2, -5, 1]$	$3x - 2$	-1	0.07794
63	$2926176304288x^2 + 777109122390x - 2028176097243$	$[1, 8, 2, 1]$	$-x$	-1	0.09362
64	$4954352401531x^2 - 1473008482817x - 1453167821471$	$[0, 1, 1, 1]$	$-x^2 - 1/3x + 1/3$	0	0.1095
65	$12834881107350x^2 - 2168907843244x - 4934511740185$	$[0, 2, 3, 1]$	$-x^2 - 4/3x + 1$	0	0.3317
66	$6447201545694x^2 + 13491099145085x - 12834881107350$	$[1, -4, 5, 1]$	$-x$	-1	0.2603
67	$11342031963187x^2 - 17133015471146x + 6447201545694$	$[1, 1, -1, 1]$	$x$	-1	0.2982
68	$19282082653044x^2 + 11322191301841x - 17769392847535$	$[1, 1, 0, 1]$	$1/3x^2 - \frac{8}{9}x - 1/9$	-1	0.2169
69	$-4894830417493x^2 + 30624114616231x - 19282082653044$	$[1, -1, 0, 1]$	$-x$	-1	0.3886
70	$35518945033724x^2 - 36434938785536x + 7959891351203$	$[1, 1, -1, 1]$	$x - 2/3$	-1	0.02399
71	$215861651457780x^2 - 25711661557233x - 90637052398766$	$[3, 4, 5, 1]$	$2 - 3x$	-3	0.1101
72	$97665545376493x^2 + 234544820037286x - 215861651457780$	$[1, -22, 5, 3]$	$-x$	-1	0.09236
73	$313527196834273x^2 + 208833158480053x - 306498703856546$	$[0, 1, 1, 1]$	$-x^2 - 1/3x + 1/3$	0	0.06732
74	$724719939045039x^2 + 652211136997392x - 828859059170872$	$[0, 2, 3, 1]$	$-x^2 - 4/3x + 1$	0	0.2124
75	$410637823982379x^2 - 1312005685200898x + 724719939045039$	$[1, 4, -5, 1]$	$x$	-1	0.3781
76	$1448884959861691x^2 - 450961389723453x - 410637823982379$	$[1, 1, 1, 1]$	$-x$	-1	0.3275
77	$1859522783844070x^2 - 1762967074924351x + 314082115062660$	$[0, 1, 1, 1]$	$-x^2 - 1/3x + 1/3$	0	0.2200
78	$2077049189987011x^2 + 3477472254673127x - 3517795820414201$	$[2, -2, 1, 1]$	$x^2 - 2/3x + 1/3$	2	0.2869
79	$3622489858768421x^2 - 249711642449514x - 1650134707135630$	$[1, 2, 1, 2]$	$-\frac{6}{11}x^2 + 1/11x + 1/11$	1	0.03641
80	$-11616604503653805x^2 - 11695960554044704x + 14167738990576523$	$[1, -3, -2, 1]$	$3x - 2$	1	0.07286

Number:  $\xi = .5666\dots$  Equation:  $3x^3 + x^2 + 2x - 2 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3/2x - 1/2$	-1	0.1123	0.3370
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-6/5x^2 + 1/5x - 2/5$	-1	0.3019	0.3774
3	$x^2 + 3x - 2$	$[1, -2, 1, 1]$	$-x^2 + 2/3x - 1/3$	-1	0.1879	0.2924
4	$-4x^2 - 3x + 3$	$[1, 1, -1, 1]$	$3/2x^2 + 1/2x$	-1	0.2556	0.5431
5	$-5x^2 - 6x + 5$	$[0, -1, 1, 1]$	$-3/4x^2 - x + 1/2$	0	0.1768	0.4223
6	$-3x^2 + 7x - 3$	$[1, 3, 1, 1]$	$-1/2x^2 + 1/3x - 2/3$	-1	0.1536	0.2100
7	$-8x^2 + x + 2$	$[0, 1, 1, 1]$	$-x$	0	0.1137	0.1225
8	$-11x^2 + 8x - 1$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x$	0	0.1644	0.2526
9	$-19x^2 + 9x + 1$	$[0, 2, 3, 1]$	$-3/4x^2 - x + 1/2$	0	0.1507	0.1850
10	$-8x^2 - 29x + 19$	$[1, 2, -2, 1]$	$x^2 - 2/3x + 1/3$	1	0.09714	0.1462
11	$-68x^2 + 35x + 2$	$[1, 3, 0, 1]$	$-3/2x^2 + x - 1$	1	0.4887	0.6186
12	$76x^2 - 6x - 21$	$[0, -1, -1, 1]$	$3/10x^2 + \frac{7}{10}x - 2/5$	0	0.05673	0.06142
13	$170x^2 + 209x - 173$	$[2, -9, -2, 1]$	$1 - 3x$	2	0.3003	0.7047
14	$246x^2 + 203x - 194$	$[0, 1, 1, 1]$	$-\frac{9}{10}x^2 - 3/5x + 1/5$	0	0.1784	0.4109
15	$-121x^2 + 358x - 164$	$[1, -9, 3, 2]$	$-x$	-1	0.2141	0.2835
16	$125x^2 + 561x - 358$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x$	0	0.4021	0.5859
17	$658x^2 - 304x - 39$	$[1, 1, -2, 1]$	$-3/4x^2 + 1/2x - 1/2$	1	0.2531	0.3080
18	$4x^2 + 919x - 522$	$[1, 1, 0, 1]$	$6/5x^2 - 1/5x + 2/5$	1	0.3317	0.4388
19	$787x^2 + 1176x - 919$	$[1, 1, 1, 1]$	$-3/2x^2 - 1/2x$	1	0.4155	0.8553
20	$654x^2 - 1223x + 483$	$[1, -1, 0, 1]$	$-1/2x^2 + 1/3x - 2/3$	1	0.2868	0.4136
21	$1441x^2 - 47x - 436$	$[0, 1, 1, 1]$	$-x$	0	0.2256	0.2465
22	$2095x^2 - 1270x + 47$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x$	0	0.3648	0.4990
23	$2232x^2 + 2048x - 1877$	$[1, 2, 1, 1]$	$3/8x^2 - x + 1/4$	1	0.08125	0.2071
24	$1304x^2 - 3365x + 1488$	$[1, 1, -1, 1]$	$x$	1	0.1046	0.1408
25	$-928x^2 - 5413x + 3365$	$[0, -1, 1, 1]$	$-3/2x^2 - 1/2x$	0	0.2071	0.2932
26	$376x^2 - 8778x + 4853$	$[0, -1, 2, 1]$	$-3/4x^2 - x + 1/2$	0	0.1674	0.2189
27	$13255x^2 + 8970x - 9338$	$[1, 5, 0, 1]$	$x^2 - 2/3x - 2/3$	-1	0.2761	0.5396
28	$13631x^2 + 192x - 4485$	$[0, 1, 1, 1]$	$-3/4x^2 - 1/4x$	0	0.1117	0.1238
29	$13831x^2 - 31555x + 13439$	$[1, 4, 1, 1]$	$-3/2x^2 + x$	1	0.05089	0.06990
30	$121151x^2 + 91556x - 90772$	$[3, 8, -2, 1]$	$3x^2 - 2x$	3	0.1276	0.2721
31	$-257309x^2 - 15791x + 91556$	$[1, -13, -5, 3]$	$3/2x^2 + 1/2x$	1	0.4402	0.4976
32	$-273492x^2 + 287296x - 74981$	$[1, 4, 3, 1]$	$-3/4x^2 + 1/2x + 1/2$	1	0.2977	0.5878
33	$-16183x^2 + 303087x - 166537$	$[0, -1, 1, 1]$	$-x^2 - 1/3x - 1/3$	0	0.2794	0.3646
34	$378460x^2 + 107347x - 182328$	$[1, -1, 0, 1]$	$-6/5x^2 + 1/5x - 2/5$	1	0.2928	0.3843
35	$362277x^2 + 410434x - 348865$	$[0, 1, 1, 1]$	$-1/2x^2 - 7/6x + 1/3$	0	0.1681	0.4205
36	$-289675x^2 + 590383x - 241518$	$[1, 1, 0, 1]$	$-x$	-1	0.1971	0.2775
37	$72602x^2 + 1000817x - 590383$	$[0, 1, 1, 1]$	$-3/2x^2 - 1/2x$	0	0.4332	0.5862
38	$1103014x^2 + 928215x - 880058$	$[1, 2, 0, 1]$	$-\frac{9}{8}x^2 + 1/4$	1	0.05850	0.1372
39	$-2423101x^2 - 265230x + 928215$	$[1, 1, -2, 1]$	$3/2x^2 + 1/2x$	1	0.2159	0.2502
40	$-3526115x^2 - 1193445x + 1808273$	$[0, -1, 1, 1]$	$-3/4x^2 - x + 1/2$	0	0.1406	0.1936

41	$-3001718x^2 + 5509187x - 2157871$	[1, 6, 4, 1]	$-x^2 + 2/3x - 1/3$	1	0.09492	0.1377
42	$-9999728x^2 - 9354752x + 8510905$	[1, 3, -1, 1]	$3/2x^2 - x$	1	0.02659	0.06913
43	$-53596971x^2 + 47665970x - 9800857$	[3, 11, 1, 1]	$-3x^2 + 2x - 1$	3	0.6341	1.157
44	$8064800x^2 - 54886923x + 28510361$	[1, 8, -2, 3]	$x^2 + 1/3x + 1/3$	1	0.5607	0.7241
45	$-55531899x^2 - 16575705x + 27220409$	[1, 1, 1, 1]	$-3/10x^2 + 4/5x + 2/5$	1	0.4345	0.5776
46	$-63596699x^2 + 38311218x - 1289952$	[0, -1, 1, 1]	$-x^2$	0	0.1830	0.2494
47	$-61661771x^2 + 102552893x - 38311218$	[1, -1, 0, 1]	$-3/2x^2 - 1/2x$	1	0.3639	0.5462
48	$-121063526x^2 - 42506162x + 62951723$	[1, 2, -1, 1]	$3/4x^2 - 1/2x + 1/2$	1	0.2320	0.3233
49	$-125258470x^2 + 140864111x - 39601170$	[1, 1, 0, 1]	$-6/5x^2 + 1/5x - 2/5$	1	0.2110	0.3946
50	$180465281x^2 + 187565217x - 164214664$	[1, -2, 0, 1]	$-x^2 + 2/3x - 1/3$	1	0.1035	0.2787
51	$-426787277x^2 - 89207268x + 187565217$	[1, 1, -1, 1]	$3/2x^2 + 1/2x$	1	0.4099	0.5070
52	$-607252558x^2 - 276772485x + 351779881$	[0, -1, 1, 1]	$-3/4x^2 - x + 1/2$	0	0.2551	0.3937
53	$-10649904x^2 + 614352494x - 344679945$	[1, 3, 1, 1]	$-1/2x^2 + 1/3x - 2/3$	1	0.1667	0.2192
54	$-617902462x^2 + 337580009x + 7099936$	[0, 1, 1, 1]	$-x$	0	0.09553	0.1241
55	$-628552366x^2 + 951932503x - 337580009$	[0, 1, 2, 1]	$-3/2x^2 - 1/2x$	0	0.1734	0.2708
56	$-1246454828x^2 + 1289512512x - 330480073$	[0, 2, 3, 1]	$-3/4x^2 - x + 1/2$	0	0.09782	0.1956
57	$-1619992585x^2 - 1871457226x + 1580484869$	[1, 2, -2, 1]	$x^2 - 2/3x + 1/3$	-1	0.05700	0.1404
58	$-4367916850x^2 + 4820470039x - 1329020228$	[1, 3, 0, 1]	$-3/2x^2 + x - 1$	-1	0.3460	0.6564
59	$-5987909435x^2 + 2949012813x + 251464641$	[0, 1, 1, 1]	$-3/10x^2 - \frac{7}{10}x + 2/5$	0	0.04962	0.06174
60	$-18718122228x^2 + 20571392668x - 5646560985$	[1, 0, 4, 1]	$-3x^2 - x + 1$	1	0.3103	0.5905
61	$24706031663x^2 - 23520405481x + 5395096344$	[0, -1, -1, 1]	$x^2 + x$	0	0.3972	0.7762
62	$-26810766744x^2 - 6832187167x + 12478748152$	[1, 10, -2, 1]	$-1/2x^2 + 1/3x - 2/3$	1	0.2986	0.3827
63	$-2104735081x^2 - 30352592648x + 17873844496$	[0, 1, 1, 1]	$-x$	0	0.2168	0.2931
64	$-28915501825x^2 - 37184779815x + 30352592648$	[0, 1, 2, 1]	$-3/2x^2 - 1/2x$	0	0.2489	0.5653
65	$-43424153891x^2 + 44091798149x - 11041657329$	[1, -1, 0, 1]	$-3/4x^2 + 1/2x - 1/2$	1	0.1601	0.3255
66	$-31020236906x^2 - 67537372463x + 48226437144$	[1, 1, 0, 1]	$6/5x^2 - 1/5x + 2/5$	1	0.2524	0.4344
67	$-103359892622x^2 - 60630354129x + 67537372463$	[1, 1, 1, 1]	$-3/2x^2 - 1/2x$	1	0.4522	0.8009
68	$-12403916985x^2 + 111629170612x - 59268094473$	[1, -1, 0, 1]	$-1/2x^2 + 1/3x - 2/3$	1	0.3367	0.4358
69	$-115763809607x^2 + 50998816483x + 8269277990$	[0, 1, 1, 1]	$-x$	0	0.2052	0.2460
70	$-134380129528x^2 - 128167726592x + 115763809607$	[1, 1, 0, 1]	$-3/2x$	-1	0.2350	0.6231
71	$-128167726592x^2 + 162627987095x - 50998816483$	[1, 1, 0, 1]	$x + 1/3$	-1	0.3097	0.5325
72	$-243931536199x^2 + 213626803578x - 42729538493$	[1, 0, 1, 1]	$-3/4x^2 - x + 1/2$	-1	0.2142	0.3850
73	$-250143939135x^2 - 77168910109x + 124033087597$	[1, -1, 1, 1]	$1/2x^2 - 1/3x + 2/3$	-1	0.1438	0.1928
74	$-6212402936x^2 - 290795713687x + 166762626090$	[0, -1, 1, 1]	$-x$	0	0.1101	0.1464
75	$-256356342071x^2 - 367964623796x + 290795713687$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x$	0	0.1348	0.2845
76	$-262568745007x^2 - 658760337483x + 457558339777$	[0, -2, 3, 1]	$-3/4x^2 - x + 1/2$	0	0.1328	0.2180
77	$-1116318677260x^2 + 435543774033x + 111608281725$	[1, 2, 2, 1]	$-x^2 + 2/3x - 1/3$	-1	0.1055	0.1226
78	$-1044062577092x^2 - 2344245636245x + 1663470733018$	[1, 3, 0, 1]	$3/2x^2 - x + 1$	-1	0.4258	0.7247
79	$72256100168x^2 - 2779789410278x + 1551862451293$	[0, -1, 1, 1]	$-3/10x^2 - \frac{7}{10}x + 2/5$	0	0.05565	0.07303
80	$-8483880431170x^2 + 7290864563821x - 1407350250957$	[2, 9, -2, 1]	$3x - 1$	-2	0.3627	0.6406

Number:  $\xi = .3627\dots$  Equation:  $3x^3 + x^2 + 2x - 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 2x + 1$	$[1, -2, -2, 1]$	$3x - 1$	-1	0.04632	0.1042
2	$-7x^2 - 3x + 2$	$[1, -3, 2, 1]$	$-3x^2 - x$	-1	0.4297	0.5436
3	$-2x^2 + 9x - 3$	$[1, -9, 3, 1]$	$-3/5x^2 + x - 2/5$	-1	0.08256	0.09581
4	$-5x^2 - 23x + 9$	$[1, 1, -2, 1]$	$3x^2 + x$	-1	0.4083	0.4901
5	$-31x^2 + 14x - 1$	$[1, 7, 2, 1]$	$-3/5x^2 + x - 2/5$	-1	0.08623	0.1039
6	$-59x^2 + 60x - 14$	$[1, -1, 2, 1]$	$-3x^2 - x$	-1	0.2446	0.4945
7	$-90x^2 + 74x - 15$	$[0, 1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.1764	0.3006
8	$-104x^2 - 45x + 30$	$[1, 7, -2, 1]$	$-x$	1	0.08543	0.1085
9	$298x^2 + 16x - 45$	$[0, -1, -2, 1]$	$3x^2 + x$	0	0.5312	0.5448
10	$-225x^2 + 327x - 89$	$[1, 3, -1, 1]$	$3/5x^2 - x - 3/5$	1	0.5652	0.8747
11	$-329x^2 + 282x - 59$	$[1, 0, 1, 1]$	$-x^2 - x$	1	0.2828	0.4996
12	$73x^2 + 343x - 134$	$[1, 1, 0, 1]$	$-3/5x^2 + 2/5x + 1/5$	1	0.08180	0.09799
13	$548x^2 + 747x - 343$	$[0, -1, 3, 1]$	$-3x^2 - x$	0	0.2938	0.5139
14	$-883x^2 + 891x - 207$	$[1, 2, 0, 1]$	$3/5x^2 - x + 2/5$	1	0.04859	0.09894
15	$-1145x^2 + 2872x - 891$	$[1, 1, 2, 1]$	$-3x^2 - x$	1	0.3823	0.4799
16	$3294x^2 + 3126x - 1567$	$[1, -7, 3, 1]$	$-3/5x^2 + x + 3/5$	1	0.4445	0.9453
17	$-2028x^2 + 3763x - 1098$	$[1, 1, 0, 1]$	$-x$	1	0.2104	0.2894
18	$-4439x^2 - 254x + 676$	$[1, -1, 0, 1]$	$-x$	1	0.1062	0.1090
19	$-10906x^2 + 3255x + 254$	$[0, 1, 2, 1]$	$-3x^2 - x$	0	0.4853	0.5288
20	$8116x^2 + 11160x - 5115$	$[1, 2, -2, 1]$	$-3/5x^2 + x - 2/5$	-1	0.05907	0.1027
21	$-31577x^2 - 19319x + 11160$	$[1, 1, -2, 1]$	$3x^2 + x$	-1	0.3581	0.5369
22	$-39693x^2 - 30479x + 16275$	$[0, -1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.1814	0.3188
23	$-17248x^2 + 42737x - 13231$	$[1, 7, 2, 1]$	$x$	-1	0.07626	0.09599
24	$5197x^2 + 115953x - 42737$	$[0, -1, 2, 1]$	$-3x^2 - x$	0	0.4251	0.4837
25	$-150656x^2 - 110756x + 59985$	$[1, 3, 0, 1]$	$9/5x^2 + 1/5$	-1	0.3134	0.5325
26	$-12051x^2 + 158690x - 55968$	$[1, 1, 0, 1]$	$-3/5x^2 + 2/5x - 4/5$	-1	0.2552	0.2884
27	$-162707x^2 + 47934x + 4017$	$[0, 1, 1, 1]$	$-x$	0	0.09730	0.1058
28	$-337465x^2 + 254558x - 47934$	$[0, 2, 3, 1]$	$-3x^2 - x$	0	0.3170	0.5037
29	$469216x^2 + 289531x - 166724$	$[1, -3, -1, 1]$	$-3/5x^2 + x - 2/5$	-1	0.07123	0.1073
30	$-1438604x^2 - 276570x + 289531$	$[1, 1, -2, 1]$	$3x^2 + x$	-1	0.5071	0.5464
31	$-1368765x^2 + 1451565x - 346409$	$[1, 7, 3, 1]$	$-3/5x^2 + x + 3/5$	-1	0.4562	0.8879
32	$69839x^2 + 1728135x - 635940$	$[0, -1, 1, 1]$	$-x^2$	0	0.08506	0.09672
33	$2047498x^2 + 4022371x - 1728135$	$[1, -3, 2, 1]$	$-3x^2 - x$	-1	0.3490	0.5038
34	$-5044727x^2 + 3775633x - 705779$	$[1, 6, -2, 1]$	$3/5x^2 - x + 2/5$	-1	0.06381	0.1008
35	$-7972117x^2 + 13301772x - 3775633$	$[1, 1, 2, 1]$	$-3x^2 - x$	-1	0.3359	0.4837
36	$-13016844x^2 + 17077405x - 4481412$	$[0, 1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.1775	0.2928
37	$21416353x^2 + 4196484x - 4338948$	$[1, -7, 2, 1]$	$x$	1	0.1012	0.1093
38	$55849550x^2 - 8684437x - 4196484$	$[0, -1, 2, 1]$	$-3x^2 - x$	0	0.5213	0.5369
39	$30243254x^2 + 60046034x - 25755301$	$[1, 2, 3, 1]$	$3/5x^2 - x + 2/5$	1	0.07005	0.1007
40	$137752411x^2 + 115604115x - 60046034$	$[1, 1, 2, 1]$	$-3x^2 - x$	1	0.2792	0.5289

41	$167995665x^2 + 175650149x - 85801335$	$[0, 1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.1455	0.3
42	$119651594x^2 - 197798445x + 55998555$	$[1, -7, 2, 1]$	$x$	-1	0.06691	0.0
43	$71307523x^2 - 571247039x + 197798445$	$[0, -1, 2, 1]$	$-3x^2 - x$	0	0.4226	0.4
44	$641739406x^2 + 642554562x - 317450039$	$[1, 3, 0, 1]$	$9/5x^2 + 1/5$	-1	0.2336	0.5
45	$190959117x^2 - 769045484x + 253797000$	$[1, 1, 0, 1]$	$-3/5x^2 + 2/5x - 4/5$	-1	0.2455	0.2
46	$832698523x^2 - 126490922x - 63653039$	$[0, 1, 1, 1]$	$-x$	0	0.1044	0.1
47	$1856356163x^2 - 1022027328x + 126490922$	$[0, 2, 3, 1]$	$-3x^2 - x$	0	0.3929	0.5
48	$-2044869812x^2 - 1729865241x + 896351562$	$[1, -3, -1, 1]$	$-3/5x^2 + x - 2/5$	-1	0.05542	0.1
49	$6778794310x^2 + 2311212232x - 1729865241$	$[1, 1, -2, 1]$	$3x^2 + x$	-1	0.4612	0.5
50	$7878650409x^2 - 6197447319x + 1211356133$	$[1, 7, 3, 1]$	$-3/5x^2 + x + 3/5$	-1	0.5506	0.9
51	$1099856099x^2 - 8508659551x + 2941221374$	$[0, -1, 1, 1]$	$-x^2$	0	0.08446	0.0
52	$-6623951924x^2 - 21058396575x + 8508659551$	$[1, -3, 2, 1]$	$-3x^2 - x$	-1	0.3918	0.4
53	$27725690851x^2 - 15132611475x + 1841365275$	$[1, 6, -2, 1]$	$3/5x^2 - x + 2/5$	-1	0.07895	0.1
54	$49927285877x^2 - 59832279076x + 15132611475$	$[1, 1, 2, 1]$	$-3x^2 - x$	-1	0.2784	0.4
55	$77652976728x^2 - 74964890551x + 16973976750$	$[0, 1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.1503	0.2
56	$-100849216127x^2 - 34794674402x + 25884325576$	$[1, -7, 2, 1]$	$x$	1	0.09195	0.1
57	$-279351408982x^2 + 5375541747x + 34794674402$	$[0, -1, 2, 1]$	$-3x^2 - x$	0	0.5343	0.5
58	$282886216061x^2 - 284726950729x + 66054541725$	$[1, 3, 0, 1]$	$9/5x^2 + 1/5$	1	0.2424	0.4
59	$-97314409048x^2 - 314146083384x + 126733541703$	$[1, 1, 1, 1]$	$-3/5x^2 + 2/5x + 1/5$	1	0.07854	0.0
60	$-574829443205x^2 - 657711299423x + 314146083384$	$[0, -1, 3, 1]$	$-3x^2 - x$	0	0.2607	0.5
61	$-747809432056x^2 + 888975526589x - 224047950751$	$[1, -2, -1, 1]$	$-3/5x^2 + x - 2/5$	1	0.05536	0.0
62	$823475011859x^2 - 2749808435985x + 888975526589$	$[1, 1, -2, 1]$	$3x^2 + x$	1	0.4012	0.4
63	$-3339070432020x^2 - 2684307921255x + 1412737007894$	$[1, 7, 3, 1]$	$-3/5x^2 + x + 3/5$	1	0.5228	0.9
64	$2591260999964x^2 + 3573283447844x - 1636784958645$	$[1, 0, -1, 1]$	$x^2 + x$	1	0.2959	0.5
65	$1571284443915x^2 - 3638783962574x + 1113023477340$	$[1, -1, -1, 1]$	$-3/5x^2 + 2/5x - 4/5$	1	0.2252	0.2
66	$-4162545443879x^2 + 65500514730x + 523761481305$	$[0, -1, -1, 1]$	$x$	0	0.1069	0.1
67	$-8521592431948x^2 - 9830874816943x + 4686306925184$	$[1, -2, 0, 1]$	$1 - 3x$	1	0.05247	0.1
68	$31102105639448x^2 + 15826464127122x - 9830874816943$	$[1, -3, -2, 1]$	$3x^2 + x$	1	0.3977	0.5
69	$39623698071396x^2 + 25657338944065x - 14517181742127$	$[0, -1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.2069	0.3
70	$12449439586933x^2 - 40932980456391x + 13207899357132$	$[1, 9, 3, 1]$	$x$	1	0.08007	0.0
71	$-14724818897530x^2 - 107523299856847x + 40932980456391$	$[0, -1, 2, 1]$	$-3x^2 - x$	0	0.4184	0.4
72	$147697820543039x^2 - 55657799353921x + 758459770199$	$[1, 2, 3, 1]$	$3/5x^2 - x + 2/5$	1	0.09177	0.1
73	$293120261775481x^2 - 259771879021080x + 55657799353921$	$[1, 1, 2, 1]$	$-3x^2 - x$	1	0.2737	0.4
74	$440818082318520x^2 - 315429678375001x + 56416259124120$	$[0, 1, 1, 1]$	$-6/5x^2 - x + 1/5$	0	0.1984	0.3
75	$-462369039147841x^2 - 237462462421560x + 146939360772840$	$[1, -7, 2, 1]$	$x$	-1	0.07917	0.1
76	$-1365556160614202x^2 - 159495246468119x + 237462462421560$	$[0, -1, 2, 1]$	$-3x^2 - x$	0	0.5230	0.5
77	$1153205469583200x^2 - 1443523376567643x + 371845937499121$	$[1, 3, 1, 1]$	$3/5x^2 - x - 3/5$	-1	0.5164	0.8
78	$-212350691031002x^2 - 1603018623035762x + 609308399920681$	$[0, 1, 1, 1]$	$-x^2$	0	0.08377	0.0
79	$-2252626581824047x^2 - 3602994954961203x + 1603018623035762$	$[1, 3, 2, 1]$	$-3x^2 - x$	1	0.3205	0.5
80	$4384354487045282x^2 - 3855645204859809x + 821659090951683$	$[1, 6, -2, 1]$	$3/5x^2 - x + 2/5$	1	0.05516	0.0

Number:  $\xi = .6253\dots$  Equation:  $3x^3 + x^2 + 3x - 3 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	[1, -1, -1, 1]	$x - 2/3$	-1	0.01619	0.04857
2	$-7x^2 - 2x + 4$	[2, -3, 4, 1]	$-3x^2 - x + 1$	-2	0.6331	0.8916
3	$8x^2 - 5x$	[1, 20, -5, 2]	$\frac{15}{23}x^2 - 1/23x - \frac{3}{23}$	-1	0.08050	0.1119
4	$8x^2 - 13x + 5$	[1, 1, 2, 1]	$-x^2 - 1/3x$	-1	0.1274	0.1945
5	$16x^2 - 18x + 5$	[0, 1, 1, 1]	$-3/4x^2 - x + 1/4$	0	0.1633	0.3049
6	$24x^2 - 31x + 10$	[0, 1, 2, 1]	$-6/7x^2 - 5/7x + 2/7$	0	0.2402	0.4091
7	$-39x^2 - 14x + 24$	[1, -8, 4, 1]	$x$	-1	0.2377	0.3583
8	$-63x^2 + 17x + 14$	[0, -1, 1, 1]	$-x^2 - 1/3x$	0	0.3718	0.4172
9	$-38x^2 - 77x + 63$	[1, 1, 2, 1]	$-x$	-1	0.3472	0.6642
10	$-64x^2 + 80x - 25$	[1, 1, -1, 1]	$-1/4x^2 + 2/3x - 1/4$	-1	0.02590	0.04500
11	$-368x^2 - 37x + 167$	[2, 3, 2, 1]	$1 - 3x$	-2	0.4799	0.5836
12	$432x^2 - 43x - 142$	[0, -1, -1, 1]	$\frac{9}{16}x^2 + 3/8x - \frac{5}{16}$	0	0.09383	0.1049
13	$-187x^2 - 574x + 432$	[1, -12, 3, 2]	$x$	-1	0.1036	0.1732
14	$-619x^2 - 531x + 574$	[0, -1, 1, 1]	$-x^2 - 1/3x$	0	0.07219	0.1874
15	$-806x^2 - 1105x + 1006$	[0, -1, 2, 1]	$-3/4x^2 - x + 1/4$	0	0.1538	0.3631
16	$-1425x^2 - 1636x + 1580$	[0, -2, 3, 1]	$-6/7x^2 - 5/7x + 2/7$	0	0.1672	0.4500
17	$-1161x^2 + 3005x - 1425$	[1, -4, -5, 1]	$x$	-1	0.3527	0.4847
18	$-3392x^2 + 264x + 1161$	[1, 1, 1, 1]	$-x$	-1	0.2810	0.3156
19	$-3656x^2 - 4377x + 4166$	[1, -1, 1, 1]	$2/3 - x$	-1	0.01938	0.05045
20	$-27122x^2 - 10706x + 17297$	[2, 3, 4, 1]	$-3x^2 - x + 1$	-2	0.5938	0.9278
21	$30778x^2 + 15083x - 21463$	[0, -1, -1, 1]	$\frac{12}{23}x^2 + \frac{13}{23}x - \frac{7}{23}$	0	0.1935	0.3340
22	$-2163x^2 + 32220x - 19300$	[1, -22, 3, 2]	$3/8x^2 - 1/4x + 5/8$	-1	0.1305	0.1779
23	$-32941x^2 + 17137x + 2163$	[0, -1, 1, 1]	$-x$	0	0.08526	0.1087
24	$-35104x^2 + 49357x - 17137$	[0, -1, 2, 1]	$-x^2 - 1/3x$	0	0.1147	0.1866
25	$-68045x^2 + 66494x - 14974$	[0, -2, 3, 1]	$-3/4x^2 - x + 1/4$	0	0.1458	0.2920
26	$-103149x^2 + 115851x - 32111$	[0, -3, 5, 1]	$-6/7x^2 - 5/7x + 2/7$	0	0.2096	0.3918
27	$-150234x^2 - 71038x + 103149$	[1, -4, 0, 1]	$-x$	1	0.2203	0.3735
28	$-253383x^2 + 44813x + 71038$	[0, 1, 1, 1]	$-x^2 - 1/3x$	0	0.3757	0.4169
29	$-274343x^2 + 298196x - 79196$	[1, 2, 0, 1]	$-3/4x^2 + 1/4$	-1	0.02248	0.04309
30	$-1443274x^2 - 287245x + 743833$	[3, 5, -1, 1]	$1 - 3x$	-3	0.4612	0.6019
31	$-1717617x^2 + 10951x + 664637$	[0, 1, 1, 1]	$-\frac{9}{16}x^2 - 3/8x + \frac{5}{16}$	0	0.09266	0.1065
32	$2301107x^2 + 2371303x - 2382254$	[1, 16, -8, 3]	$x - 1$	1	0.06680	0.1953
33	$2884597x^2 + 4753557x - 4099871$	[0, 1, 2, 1]	$-3/4x^2 - x + 1/4$	0	0.1778	0.3755
34	$5185704x^2 + 7124860x - 6482125$	[0, 1, 3, 1]	$-6/7x^2 - 5/7x + 2/7$	0	0.1981	0.4670
35	$-5396292x^2 + 11667829x - 5185704$	[1, 9, 5, 1]	$-x$	1	0.3322	0.4688
36	$13466593x^2 + 210588x - 5396292$	[1, 1, -1, 1]	$x$	1	0.2767	0.3212
37	$-210588x^2 + 18792689x - 11667829$	[1, 1, 0, 1]	$-1/3 - x$	1	0.5165	0.7156
38	$-18862885x^2 + 11457241x + 210588$	[1, -1, 0, 1]	$-x$	1	0.3253	0.4454
39	$13256005x^2 + 19003277x - 17064121$	[1, 1, 0, 1]	$-1/4x^2 + 2/3x - 1/4$	1	0.02282	0.05232
40	$-104216383x^2 - 53309214x + 74073952$	[1, 2, -5, 1]	$3x^2 + x - 1$	1	0.5477	0.9676



41	$-117472388x^2 - 72312491x + 91138073$	$[0, -1, 1, 1]$	$-\frac{12}{23}x^2 - \frac{13}{23}x + \frac{7}{23}$	0	0.1761	0.3488
42	$17241816x^2 - 128966932x + 73896257$	$[1, -13, -2, 1]$	$3/8x^2 - 1/4x + 5/8$	1	0.1306	0.1758
43	$134714204x^2 - 56654441x - 17241816$	$[0, -1, 1, 1]$	$-x$	0	0.08908	0.1063
44	$151956020x^2 - 185621373x + 56654441$	$[0, -1, 2, 1]$	$-x^2 - 1/3x$	0	0.1014	0.1787
45	$286670224x^2 - 242275814x + 39412625$	$[0, -2, 3, 1]$	$-3/4x^2 - x + 1/4$	0	0.1616	0.2801
46	$438626244x^2 - 427897187x + 96067066$	$[0, -3, 5, 1]$	$-6/7x^2 - 5/7x + 2/7$	0	0.1876	0.3752
47	$-574105935x^2 - 342559178x + 438626244$	$[1, 4, 0, 1]$	$x$	-1	0.2010	0.3899
48	$-1012732179x^2 + 85338009x + 342559178$	$[0, -1, 1, 1]$	$-x^2 - 1/3x$	0	0.3749	0.4204
49	$1163922712x^2 - 1098070188x + 231546757$	$[1, 2, 0, 1]$	$3/4x^2 - 1/4$	-1	0.02139	0.0412
50	$-5622055988x^2 - 1699057677x + 3260221379$	$[3, 5, 1, 1]$	$3x - 1$	-3	0.4371	0.6240
51	$-6785978700x^2 - 600987489x + 3028674622$	$[0, -1, 1, 1]$	$-\frac{9}{16}x^2 - 3/8x + \frac{5}{16}$	0	0.09035	0.1091
52	$1661005411x^2 + 9814653322x - 6785978700$	$[1, -19, -5, 3]$	$x$	-1	0.1182	0.1780
53	$8446984111x^2 + 10415640811x - 9814653322$	$[0, -1, 1, 1]$	$-x^2 - 1/3x$	0	0.07977	0.2031
54	$10107989522x^2 + 20230294133x - 16600632022$	$[0, -1, 2, 1]$	$-3/4x^2 - x + 1/4$	0	0.2012	0.3868
55	$18554973633x^2 + 30645934944x - 26415285344$	$[0, -2, 3, 1]$	$-6/7x^2 - 5/7x + 2/7$	0	0.2289	0.4830
56	$-24460943733x^2 + 44970258977x - 18554973633$	$[1, 4, 5, 1]$	$-x$	-1	0.3082	0.4519
57	$53123906888x^2 + 5905970100x - 24460943733$	$[1, 1, -1, 1]$	$x$	-1	0.2690	0.3293
58	$-5905970100x^2 + 75616193921x - 44970258977$	$[1, 1, 0, 1]$	$-1/3 - x$	-1	0.5223	0.7103
59	$-77584850621x^2 + 39064288877x + 5905970100$	$[1, -1, 0, 1]$	$-x$	-1	0.3438	0.4330
60	$47217936788x^2 + 81522164021x - 69431202710$	$[1, 1, 0, 1]$	$-1/4x^2 + 2/3x - 1/4$	-1	0.02623	0.0540
61	$-397165355282x^2 - 253866048430x + 313997694773$	$[1, 2, -5, 1]$	$3x^2 + x - 1$	-1	0.4969	1.010
62	$-444383292070x^2 - 335388212451x + 383428897483$	$[0, -1, 1, 1]$	$-\frac{12}{23}x^2 - \frac{13}{23}x + \frac{7}{23}$	0	0.1574	0.3642
63	$102912681699x^2 - 512991746536x + 280516215784$	$[1, -13, -2, 1]$	$3/8x^2 - 1/4x + 5/8$	-1	0.1291	0.1728
64	$547295973769x^2 - 177603534085x - 102912681699$	$[0, -1, 1, 1]$	$-x$	0	0.09184	0.1048
65	$650208655468x^2 - 690595280621x + 177603534085$	$[0, -1, 2, 1]$	$-x^2 - 1/3x$	0	0.08764	0.1711
66	$1197504629237x^2 - 868198814706x + 74690852386$	$[0, -2, 3, 1]$	$-3/4x^2 - x + 1/4$	0	0.1762	0.2694
67	$1847713284705x^2 - 1558794095327x + 252294386471$	$[0, -3, 5, 1]$	$-6/7x^2 - 5/7x + 2/7$	0	0.2080	0.3599
68	$-2174698523562x^2 - 1595418898234x + 1847713284705$	$[1, 4, 0, 1]$	$x$	1	0.1802	0.4072
69	$-4022411808267x^2 - 36624802907x + 1595418898234$	$[0, -1, 1, 1]$	$-x^2 - 1/3x$	0	0.3694	0.4276
70	$4892931198647x^2 - 3985787005360x + 579279625328$	$[1, 2, 0, 1]$	$3/4x^2 - 1/4$	1	0.02362	0.0396
71	$-21743223413374x^2 - 8955167714597x + 14099513970613$	$[3, 5, 1, 1]$	$3x - 1$	3	0.4084	0.6495
72	$-26636154612021x^2 - 4969380709237x + 13520234345285$	$[0, -1, 1, 1]$	$-\frac{9}{16}x^2 - 3/8x + \frac{5}{16}$	0	0.08696	0.1124
73	$3909337494770x^2 + 40156388957306x - 26636154612021$	$[1, -19, -5, 3]$	$x$	1	0.1236	0.1791
74	$30545492106791x^2 + 45125769666543x - 40156388957306$	$[0, -1, 1, 1]$	$-x^2 - 1/3x$	0	0.09353	0.2105
75	$34454829601561x^2 + 85282158623849x - 66792543569327$	$[0, -1, 2, 1]$	$-3/4x^2 - x + 1/4$	0	0.2233	0.3967
76	$65000321708352x^2 + 130407928290392x - 106948932526633$	$[0, -2, 3, 1]$	$-6/7x^2 - 5/7x + 2/7$	0	0.2590	0.4975
77	$-108741154387608x^2 + 171949254234985x - 65000321708352$	$[1, 4, 5, 1]$	$-x$	1	0.2815	0.4343
78	$208196305697521x^2 + 43740832679256x - 108741154387608$	$[1, 1, -1, 1]$	$x$	1	0.2581	0.3398
79	$-43740832679256x^2 + 302357182525377x - 171949254234985$	$[1, 1, 0, 1]$	$-1/3 - x$	1	0.5217	0.7014
80	$-316937460085129x^2 + 128208421555729x + 43740832679256$	$[1, -1, 0, 1]$	$-x$	1	0.3584	0.4239

Number:  $\xi = .4796\dots$  Equation:  $3x^3 + x^2 + 3x - 2 = 0$ . "All" optimal polynomials.

1	$2x^2 - x$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 1/2$	0	0.07813	0.09766
2	$4x^2 - 4x + 1$	[1, -4, 4, 1]	$-3/2x^2 - 1/2x + 1/2$	-1	0.02653	0.05472
3	$20x^2 + 5x - 7$	[2, 23, -7, 1]	$1 - 3x$	-2	0.2911	0.3450
4	$13x^2 - 25x + 9$	[1, 11, -1, 2]	$-3/7x^2 + 5/7x + 1/7$	-1	0.1760	0.2464
5	$44x^2 + 6x - 13$	[1, 2, 0, 1]	$-3/2x$	-1	0.3922	0.4337
6	$-6x^2 + 55x - 25$	[1, -2, 0, 1]	$-1/3 - x$	-1	0.4982	0.6071
7	$57x^2 - 19x - 4$	[1, 1, 0, 1]	$x$	-1	0.2566	0.2864
8	$38x^2 + 61x - 38$	[1, 1, 0, 1]	$-x$	-1	0.1410	0.2504
9	$-120x^2 + 93x - 17$	[1, -2, 0, 1]	$3/4x^2 - 5/4x + 1/4$	-1	0.09657	0.1565
10	$133x^2 + 103x - 80$	[1, 2, 0, 1]	$x$	-1	0.05690	0.1116
11	$386x^2 + 113x - 143$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 1/2$	0	0.04069	0.04976
12	$433x^2 + 1700x - 915$	[2, 7, 9, 1]	$1 - 3x$	-2	0.3464	0.4692
13	$1540x^2 - 1877x + 546$	[1, 11, -3, 2]	$-3/7x^2 + 5/7x - 6/7$	-1	0.2589	0.4551
14	$1973x^2 - 177x - 369$	[0, 1, 1, 1]	$-3/8x^2 - \frac{7}{8}x - 1/8$	0	0.1805	0.1883
15	$3225x^2 + 3336x - 2342$	[1, 3, 1, 1]	$1 - 3/2x$	1	0.1448	0.3514
16	$2261x^2 - 5567x + 2150$	[1, 2, -1, 1]	$x$	1	0.1934	0.2541
17	$-9963x^2 - 4618x + 4507$	[1, -3, -1, 1]	$-3/4x^2 + 5/4x - 1/4$	1	0.1096	0.1556
18	$-1297x^2 + 14470x - 6642$	[1, -2, 0, 1]	$x$	1	0.1109	0.1352
19	$7369x^2 + 33558x - 17791$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 1/2$	0	0.05065	0.06733
20	$85936x^2 - 109038x + 32529$	[2, -7, -9, 1]	$3x - 1$	2	0.2347	0.4014
21	$82849x^2 + 137285x - 84907$	[1, 11, 1, 2]	$3/7x^2 - 5/7x - 1/7$	1	0.1439	0.2514
22	$-251634x^2 - 165532x + 137285$	[0, -1, -2, 1]	$3/2x^2 + 1/2x$	0	0.2828	0.4894
23	$334483x^2 + 302817x - 222192$	[0, 1, 3, 1]	$x^2 + x$	0	0.3547	0.8019
24	$-81654x^2 + 388919x - 167756$	[1, -2, 1, 1]	$3/7x^2 - 2/7x + 5/7$	-1	0.3241	0.3987
25	$-416137x^2 + 86102x + 54436$	[0, -1, 1, 1]	$-x$	0	0.1780	0.1886
26	$-504463x^2 - 857268x + 527233$	[1, -1, -1, 1]	$3/4x^2 - 5/4x + 5/4$	-1	0.6215	1.072
27	$-913928x^2 + 561123x - 58884$	[1, 2, 0, 1]	$-\frac{9}{17}x^2 + \frac{9}{17}x - \frac{4}{17}$	-1	0.07287	0.1006
28	$-1739530x^2 + 2065616x - 590565$	[1, -1, 2, 1]	$-3/2x^2 - 1/2x + 1/2$	-1	0.03160	0.05660
29	$-9675908x^2 - 1381279x + 2888495$	[2, 19, -5, 1]	$1 - 3x$	-2	0.3044	0.3377
30	$-5186425x^2 + 12332089x - 4721797$	[1, 11, -1, 2]	$-3/7x^2 + 5/7x + 1/7$	-1	0.1913	0.2532
31	$-21091346x^2 - 696942x + 5186425$	[1, 2, 0, 1]	$-3/2x$	-1	0.4025	0.4273
32	$696942x^2 - 26045457x + 12332089$	[1, -2, 0, 1]	$-1/3 - x$	-1	0.4990	0.6113
33	$-26277771x^2 + 11635147x + 464628$	[1, 1, 0, 1]	$x$	-1	0.2437	0.2915
34	$-20394404x^2 - 26742399x + 17518514$	[1, 1, 0, 1]	$-x$	-1	0.1210	0.2434
35	$53252484x^2 - 49315751x + 11402833$	[1, -2, 0, 1]	$3/4x^2 - 5/4x + 1/4$	-1	0.08495	0.1617
36	$-67066579x^2 - 41849651x + 35501656$	[1, 2, 0, 1]	$x$	-1	0.06463	0.1079
37	$-187385642x^2 - 34383551x + 59600479$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x + 1/2$	0	0.04283	0.04861
38	$-271620631x^2 - 775341914x + 434371763$	[2, 7, 9, 1]	$1 - 3x$	-2	0.3219	0.4624
39	$-928344005x^2 + 177636601x + 128367581$	[1, 11, -1, 2]	$-3/7x^2 + 5/7x + 1/7$	-1	0.1785	0.1885
40	$-1585067379x^2 + 1130615116x - 177636601$	[0, -1, 2, 1]	$-3/2x^2 - 1/2x$	0	0.3044	0.4631

41	$-1658970909x^2 - 1407430778x + 1056711586$	$[1, 2, 1, 1]$	$-x$	-1	0.1
42	$-854440475x^2 + 2715682495x - 1105980606$	$[1, 1, -1, 1]$	$x$	-1	0.2
43	$-4903009197x^2 - 1684246440x + 1935786571$	$[1, 2, 0, 1]$	$3/4x^2 - 5/4x + 1/4$	-1	0.1
44	$49910041x^2 - 6838795768x + 3268672798$	$[1, -2, 0, 1]$	$-x$	-1	0.1
45	$-4803189115x^2 - 15361837976x + 8473132167$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.0
46	$-36479135698x^2 + 55190801822x - 18079510397$	$[2, 7, -9, 1]$	$3x - 1$	2	0.2
47	$-44632152961x^2 - 60314105841x + 39196808119$	$[1, 11, 1, 2]$	$3/7x^2 - 5/7x - 1/7$	1	0.1
48	$-125743441620x^2 - 65437409860x + 60314105841$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x$	0	0.3
49	$-170375594581x^2 - 125751515701x + 99510913960$	$[0, 1, 3, 1]$	$-x^2 - x$	0	0.4
50	$23522929320x^2 - 186057547461x + 83828961080$	$[1, -2, 1, 1]$	$3/7x^2 - 2/7x + 5/7$	1	0.3
51	$193898523901x^2 - 60306031760x - 15681952880$	$[0, -1, 1, 1]$	$-x$	0	0.1
52	$-272596106881x^2 - 377246473022x + 243653980881$	$[1, 1, 1, 1]$	$-3/4x^2 + 5/4x - 5/4$	1	0.5
53	$411319977122x^2 - 306669610981x + 52465055320$	$[1, 2, 0, 1]$	$\frac{9}{17}x^2 - \frac{9}{17}x + \frac{4}{17}$	1	0.0
54	$743942371264x^2 - 1050891726744x + 332902138641$	$[1, 1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	1	0.0
55	$-4640559922760x^2 - 182228971125x + 1154982603887$	$[2, -19, 5, 1]$	$3x - 1$	2	0.3
56	$1977063069133x^2 - 6024353788145x + 2434685592129$	$[1, 11, 1, 2]$	$3/7x^2 - 5/7x - 1/7$	1	0.2
57	$10025062216784x^2 - 686433784494x - 1977063069133$	$[1, -2, 0, 1]$	$-3/2x$	1	0.4
58	$-10711496001278x^2 - 11544502762921x + 8001416857278$	$[1, 2, -1, 1]$	$x - 2/3$	1	0.1
59	$23317816787340x^2 - 25652511692693x + 6939598834137$	$[2, 3, 1, 1]$	$3/4x^2 - 5/4x + 1/4$	2	0.0
60	$-33425117288473x^2 - 16378217953203x + 15545211191560$	$[1, 5, -1, 2]$	$x$	1	0.0
61	$-90168051364286x^2 - 7103924213713x + 24150823548983$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.0
62	$-159024330087433x^2 - 350060548953520x + 204486926277555$	$[2, 7, 9, 1]$	$1 - 3x$	2	0.2
63	$-433124676104093x^2 + 127769582324737x + 38358671976409$	$[1, 11, -1, 2]$	$-3/7x^2 + 5/7x + 1/7$	1	0.1
64	$-707225022120753x^2 + 605599713602994x - 127769582324737$	$[0, -1, 2, 1]$	$-3/2x^2 - 1/2x$	0	0.2
65	$-841341387643245x^2 - 579455439796016x + 471483348080502$	$[1, 2, 1, 1]$	$-x$	1	0.1
66	$-299008310581601x^2 + 1312824735723747x - 560894258428830$	$[1, 1, -1, 1]$	$x$	1	0.2
67	$-2389907797407243x^2 - 553311165989038x + 815197113836267$	$[1, 2, 0, 1]$	$3/4x^2 - 5/4x + 1/4$	1	0.1
68	$-243324766480043x^2 - 3205104911243510x + 1593271864938162$	$[1, -2, 0, 1]$	$-x$	1	0.1
69	$-2876557330367329x^2 - 6963520988476058x + 4001740843712591$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	0	0.0
70	$-23511451852607089x^2 - 26102710136882165x + 17928782820664707$	$[1, 9, 7, 1]$	$-3x^2 - x + 1$	-1	0.1
71	$62160352009907694x^2 + 24607004763048512x - 26102710136882165$	$[1, 11, -4, 1]$	$3/2x^2 + 1/2x$	-1	0.3
72	$85671803862514783x^2 + 50709714899930677x - 44031492957546872$	$[0, -1, 1, 1]$	$-x^2 - x$	0	0.4
73	$3886887426412614x^2 - 88263062146789859x + 41440234673271796$	$[1, 5, 2, 1]$	$-3/7x^2 + 2/7x - 5/7$	-1	0.3
74	$89558691288927397x^2 - 37553347246859182x - 2591258284275076$	$[0, 1, 1, 1]$	$-x$	0	0.1
75	$143945268446009863x^2 + 163579781809769048x - 111574437767700833$	$[1, 1, -1, 1]$	$3/4x^2 - 5/4x + 5/4$	1	0.4
76	$183004270004267408x^2 - 163369756640508223x + 36257718104721644$	$[1, 2, 0, 1]$	$-\frac{9}{17}x^2 + \frac{9}{17}x - \frac{4}{17}$	1	0.0
77	$311621962851452350x^2 - 527872642337644676x + 181498615692869045$	$[1, -1, 2, 1]$	$-3/2x^2 - 1/2x + 1/2$	1	0.0
78	$2206861852715838728x^2 - 137502600861894761x - 441745310010035655$	$[2, 19, -5, 1]$	$1 - 3x$	2	0.3
79	$-1504869848388636463x^2 - 2778730509884457688x + 1678989210378194052$	$[1, 11, -3, 2]$	$-3/7x^2 + 5/7x - 6/7$	1	0.3
80	$701992004327202265x^2 - 2916233110746352449x + 1237243900368158397$	$[0, 1, 1, 1]$	$-3/8x^2 - \frac{7}{8}x - 1/8$	0	0.2

Number:  $\xi = .2837\dots$  Equation:  $3x^3 + x^2 + 3x - 1 = 0$ . "All" optimal polynomials.

1	$-2x^2 - 3x + 1$	$[1, -3, -2, 1]$	$3x - 1$	-1	0.1079	0.1678
2	$-7x^2 + 2x$	$[2, -7, 0, 1]$	$-3/2x^2 + x - 1/2$	-2	0.1980	0.2141
3	$-2x^2 - 10x + 3$	$[1, 6, -1, 2]$	$x^2 - 2/3x + 2/3$	-1	0.2254	0.2548
4	$5x^2 - 12x + 3$	$[0, -1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2571	0.3178
5	$-18x^2 - 9x + 4$	$[1, 2, 1, 1]$	$3/2x + 1/2$	-1	0.5355	0.6958
6	$-20x^2 - 19x + 7$	$[1, 0, 1, 1]$	$-x^2 - x$	-1	0.2407	0.4875
7	$3x^2 - 22x + 6$	$[1, -1, 1, 1]$	$1/2x^2 - 1/3x + 5/6$	-1	0.2269	0.2480
8	$23x^2 - 3x - 1$	$[0, -1, 1, 1]$	$-x$	0	0.07036	0.07169
9	$-55x^2 - 69x + 24$	$[1, 2, 1, 1]$	$3x - 1$	-1	0.09432	0.1657
10	$167x^2 - 65x + 5$	$[2, 7, 0, 1]$	$3/2x^2 - x + 1/2$	-2	0.1862	0.2146
11	$-70x^2 - 241x + 74$	$[1, 6, 1, 2]$	$-x^2 + 2/3x - 2/3$	-1	0.2164	0.2551
12	$97x^2 - 306x + 79$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2763	0.3225
13	$-459x^2 - 180x + 88$	$[1, -2, 1, 1]$	$3/2x + 1/2$	1	0.5754	0.6851
14	$-529x^2 - 421x + 162$	$[1, 0, 1, 1]$	$-x^2 - x$	1	0.2783	0.4807
15	$27x^2 - 547x + 153$	$[1, -1, 1, 1]$	$1/2x^2 - 1/3x + 5/6$	1	0.2318	0.2505
16	$556x^2 - 126x - 9$	$[0, -1, 1, 1]$	$-x$	0	0.06795	0.07146
17	$-1490x^2 - 1569x + 565$	$[1, 2, 1, 1]$	$3x - 1$	1	0.08060	0.1637
18	$3946x^2 - 1976x + 243$	$[2, 7, 0, 1]$	$3/2x^2 - x + 1/2$	2	0.1718	0.2156
19	$-2219x^2 - 5758x + 1812$	$[1, 6, 1, 2]$	$-x^2 + 2/3x - 2/3$	1	0.2042	0.2547
20	$1727x^2 - 7734x + 2055$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2917	0.3269
21	$-11601x^2 - 3375x + 1891$	$[1, -2, 1, 1]$	$3/2x + 1/2$	-1	0.6075	0.6751
22	$-13328x^2 + 4359x - 164$	$[0, -1, 1, 1]$	$-x^2$	0	0.06453	0.07144
23	$39492x^2 - 26569x + 4359$	$[1, 4, -3, 1]$	$3x^2 + x$	-1	0.2975	0.4358
24	$-39733x^2 - 35133x + 13164$	$[1, 11, 3, 1]$	$x$	-1	0.08543	0.1616
25	$-92312x^2 + 57497x - 8882$	$[1, -2, 0, 1]$	$-3/2x^2 + x - 1/2$	-1	0.1554	0.2171
26	$66379x^2 + 136327x - 44015$	$[1, -3, 1, 1]$	$-x^2 + 2/3x - 2/3$	-1	0.1891	0.2537
27	$-25933x^2 + 193824x - 52897$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.3028	0.3308
28	$-290736x^2 - 56466x + 39415$	$[1, 2, -1, 1]$	$-1/2 - 3/2x$	1	0.6306	0.6660
29	$-316669x^2 + 137358x - 13482$	$[0, 1, 1, 1]$	$-x^2$	0	0.06020	0.07164
30	$-909561x^2 + 742225x - 137358$	$[1, 4, 3, 1]$	$-3x^2 - x$	-1	0.2608	0.4404
31	$-1045412x^2 - 772203x + 303187$	$[1, 11, -3, 1]$	$-x$	-1	0.09773	0.1593
32	$-2135791x^2 + 1621808x - 288198$	$[1, 2, 0, 1]$	$-3/2x^2 + x - 1/2$	-1	0.1375	0.2193
33	$-1910006x^2 - 3196192x + 1060401$	$[1, 3, -1, 1]$	$x^2 - 2/3x + 2/3$	-1	0.1718	0.2521
34	$225785x^2 - 4818000x + 1348599$	$[0, -1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.3092	0.3341
35	$-7227000x^2 - 724779x + 787192$	$[1, 2, 1, 1]$	$3/2x + 1/2$	-1	0.6439	0.6581
36	$-7452785x^2 + 4093221x - 561407$	$[0, -1, 1, 1]$	$-x^2$	0	0.05511	0.07205
37	$20674134x^2 - 20293855x + 4093221$	$[1, 4, -3, 1]$	$3x^2 + x$	-1	0.2227	0.4460
38	$-27185233x^2 - 16580913x + 6891378$	$[1, 11, 3, 1]$	$x$	-1	0.1092	0.1569
39	$-48801053x^2 + 44680931x - 8747849$	$[1, -2, 0, 1]$	$-3/2x^2 + x - 1/2$	-1	0.1186	0.2219
40	$53428780x^2 + 74129815x - 25328762$	$[1, -3, 1, 1]$	$-x^2 + 2/3x - 2/3$	-1	0.1527	0.2499

41	$4627727x^2 + 118810746x - 34076611$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.3108	0.3368
42	$-173588392x^2 + 117461880x - 19352169$	$[1, 3, 0, 1]$	$1/2 - 3/2x$	1	0.04941	0.07265
43	$525974032x^2 + 462708669x - 173588392$	$[3, 4, -2, 1]$	$3x$	3	0.3861	0.7269
44	$462708669x^2 - 545326201x + 117461880$	$[1, -11, -1, 3]$	$x + 1/3$	1	0.2561	0.4523
45	$-636297061x^2 + 662788081x - 136814049$	$[1, 0, -1, 1]$	$3/2x^2 + x + 1/2$	1	0.3421	0.6719
46	$699562424x^2 + 345246789x - 154236223$	$[1, -1, -1, 1]$	$-1/3x^2 + 5/9x - 4/9$	1	0.1195	0.1545
47	$1099005730x^2 - 1208114282x + 254275929$	$[1, -1, 0, 1]$	$-3/2x^2 + x - 1/2$	1	0.1202	0.2249
48	$1462390211x^2 + 1698528448x - 599522718$	$[1, 3, 0, 1]$	$x^2 - 2/3x + 2/3$	1	0.1325	0.2473
49	$363384481x^2 + 2906642730x - 853798647$	$[0, -1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.3074	0.3387
50	$3996579614x^2 - 3279096057x + 608591564$	$[1, 3, 0, 1]$	$3/2x - 1/2$	1	0.04329	0.07343
51	$13833867785x^2 + 10163964150x - 3996579614$	$[3, 4, 2, 1]$	$-3x$	3	0.4414	0.7165
52	$10163964150x^2 - 14442459349x + 3279096057$	$[1, 11, -1, 3]$	$x + 1/3$	1	0.2968	0.4591
53	$14160543764x^2 - 17721555406x + 3887687621$	$[1, 0, 1, 1]$	$-3/2x^2 - x - 1/2$	1	0.4042	0.6817
54	$17830447399x^2 + 6884868093x - 3387988050$	$[1, -1, 1, 1]$	$1/3x^2 - 5/9x + 4/9$	1	0.1283	0.1521
55	$24324507914x^2 - 32164014755x + 7166783678$	$[1, 1, 0, 1]$	$-3/2x^2 + x - 1/2$	1	0.1407	0.2282
56	$-39330798433x^2 - 38376159685x + 14051651771$	$[1, -3, 0, 1]$	$-x^2 + 2/3x - 2/3$	1	0.1174	0.2442
57	$-15006290519x^2 - 70540174440x + 21218435449$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2992	0.3398
58	$90803971141x^2 - 89607176172x + 18112362984$	$[1, 3, 0, 1]$	$1/2 - 3/2x$	-1	0.03693	0.07436
59	$-359625499657x^2 - 218074824471x + 90803971141$	$[3, 4, -2, 1]$	$3x$	-3	0.4929	0.7056
60	$-218074824471x^2 + 377737862641x - 89607176172$	$[1, -11, -1, 3]$	$x + 1/3$	-1	0.3356	0.4663
61	$450429470798x^2 + 128467648299x - 72691608157$	$[1, -1, 0, 1]$	$x$	-1	0.1354	0.1499
62	$526953620083x^2 - 845082901454x + 197326715328$	$[1, -2, 1, 1]$	$-3/2x^2 + x - 1/2$	-1	0.1606	0.2318
63	$-1042409616782x^2 - 852747983710x + 325794363627$	$[1, -3, 1, 1]$	$-x^2 + 2/3x - 2/3$	-1	0.1363	0.2409
64	$-515455996699x^2 - 1697830885164x + 523121078955$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2865	0.3401
65	$2031290331047x^2 - 2406781056063x + 519288537827$	$[1, 3, 0, 1]$	$1/2 - 3/2x$	1	0.04288	0.07541
66	$-9251633499236x^2 - 4536005379660x + 2031290331047$	$[3, 4, -2, 1]$	$3x$	3	0.5392	0.6948
67	$-4536005379660x^2 + 9770922037063x - 2406781056063$	$[1, -11, -1, 3]$	$x + 1/3$	1	0.3711	0.4735
68	$11282923830283x^2 + 2129224323597x - 1512001793220$	$[1, -1, 0, 1]$	$x$	1	0.1404	0.1479
69	$11103301090367x^2 - 21948625130189x + 5332850649953$	$[1, -2, 1, 1]$	$-3/2x^2 + x - 1/2$	1	0.1790	0.2354
70	$-27281475780142x^2 - 18565376063917x + 7462074973550$	$[1, -3, 1, 1]$	$-x^2 + 2/3x - 2/3$	1	0.1543	0.2374
71	$-16178174689775x^2 - 40514001194106x + 12794925623503$	$[0, 1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2696	0.3395
72	$-43459650469917x^2 - 59079377258023x + 20257000597053$	$[0, 1, 2, 1]$	$-3/2x^2 - 1/2x$	0	0.1505	0.2496
73	$44592827101384x^2 - 63716651066970x + 14486550156639$	$[1, 3, 0, 1]$	$-x$	1	0.04966	0.07655
74	$-235742780302294x^2 - 90318830834235x + 44592827101384$	$[1, 3, -2, 1]$	$3x$	1	0.5786	0.6842
75	$90318830834235x^2 - 250229330458933x + 63716651066970$	$[1, 3, 0, 1]$	$-1/3 - x$	1	0.4022	0.4807
76	$280335607403678x^2 + 26602179767265x - 30106276944745$	$[1, -1, 0, 1]$	$-x$	1	0.1432	0.1461
77	$505566096173532x^2 - 537573132217571x + 111813575345834$	$[1, 2, 2, 1]$	$-3/2x^2 + x + 1/2$	1	0.3491	0.6730
78	$225230488769854x^2 - 564175311984836x + 141919852290579$	$[0, -1, 1, 1]$	$-x^2 - 1/3x - 1/3$	0	0.1955	0.2390
79	$706095164275415x^2 + 393752520827698x - 168522032057844$	$[1, 4, -1, 1]$	$x^2 - 2/3x + 2/3$	1	0.1709	0.2337
80	$480864675505561x^2 + 957927832812534x - 310441884348423$	$[0, -1, 1, 1]$	$-x^2 - 4/3x - 1/3$	0	0.2491	0.3380

Number:  $\xi = .8862\dots$  Equation:  $3x^3 + 2x^2 - 3x - 1 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	$[0, -1, 1, 1]$	$4 - 2x - 3x^2$	0	0.1009	0.2017
2	$x^2 - 2x + 1$	$[1, -2, 1, 1]$	$4 - 2x - 3x^2$	-1	0.05181	0.07771
3	$2x^2 + 5x - 6$	$[1, 7, -6, 1]$	$3x^2 + 2x - 4$	-1	0.05988	0.1081
4	$7x^2 - 22x + 14$	$[1, 8, -1, 1]$	$3x - 2$	-1	0.5302	0.7985
5	$-25x^2 + 12x + 9$	$[1, -6, -2, 1]$	$-3/11x^2 + \frac{7}{11}x + 4/11$	-1	0.4884	0.6642
6	$-5x^2 + 27x - 20$	$[1, -1, 0, 1]$	$9x^2 + 3x - 9$	-1	0.4140	0.6553
7	$20x^2 + 15x - 29$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 1$	0	0.1796	0.3131
8	$52x^2 - 19x - 24$	$[1, -2, 1, 1]$	$1 + x - 3x^2$	-1	0.2713	0.3654
9	$-17x^2 + 76x - 54$	$[1, 2, -1, 1]$	$-6x^2 - x + 6$	-1	0.2329	0.3621
10	$124x^2 - 23x - 77$	$[1, 2, 0, 1]$	$-6/5x^2 - 1/5x + 4/5$	-1	0.1981	0.2814
11	$210x^2 - 194x + 7$	$[1, -2, 1, 1]$	$3x^2 - x - 2$	-1	0.3013	0.5588
12	$145x^2 + 201x - 292$	$[1, 3, -1, 1]$	$3x^2 + x - 4$	-1	0.4414	0.7595
13	$355x^2 + 7x - 285$	$[0, 1, 1, 1]$	$-6/5x^2 - 1/5x + 4/5$	0	0.2086	0.3431
14	$189x^2 - 418x + 222$	$[1, 1, -1, 1]$	$3x^2 - x - 2$	1	0.1533	0.2279
15	$544x^2 - 411x - 63$	$[0, 1, 1, 1]$	$-x$	0	0.2301	0.3645
16	$733x^2 - 829x + 159$	$[0, 1, 2, 1]$	$4 - 2x - 3x^2$	0	0.06862	0.1248
17	$-256x^2 + 1880x - 1465$	$[1, 1, -4, 1]$	$3x^2 + 2x - 4$	1	0.04532	0.07368
18	$4139x^2 + 5066x - 7740$	$[1, 7, 6, 1]$	$4 - 2x - 3x^2$	1	0.09865	0.1691
19	$-1358x^2 - 20935x + 19619$	$[1, -8, -1, 1]$	$3x - 2$	1	0.4753	0.8947
20	$21862x^2 - 9594x - 8667$	$[1, 6, 2, 1]$	$3/11x^2 - \frac{7}{11}x - 4/11$	1	0.3698	0.4991
21	$5497x^2 + 26001x - 27359$	$[1, -1, 0, 1]$	$-9x^2 - 3x + 9$	1	0.4208	0.8179
22	$20504x^2 - 30529x + 10952$	$[1, 1, 0, 1]$	$x - 1/3$	1	0.2897	0.4576
23	$27359x^2 + 16407x - 36026$	$[1, 1, 0, 1]$	$6/5x^2 + 1/5x - 9/5$	1	0.2745	0.4897
24	$47863x^2 - 14122x - 25074$	$[0, 1, 1, 1]$	$1 + x - 3x^2$	0	0.2276	0.3099
25	$12352x^2 + 72937x - 74337$	$[1, -1, 1, 1]$	$-6x^2 - x + 6$	-1	0.2206	0.4390
26	$123085x^2 - 11837x - 86174$	$[1, 2, 0, 1]$	$-6/5x^2 - 1/5x + 4/5$	-1	0.1933	0.2898
27	$146244x^2 - 171833x + 37426$	$[1, -2, 1, 1]$	$3x^2 - x - 2$	-1	0.1997	0.3539
28	$269329x^2 - 183670x - 48748$	$[0, 1, 1, 1]$	$-x$	0	0.4348	0.6513
29	$235363x^2 + 209259x - 370285$	$[1, 3, -1, 1]$	$12x^2 + 5x - 13$	1	0.7028	1.211
30	$381607x^2 + 37426x - 332859$	$[1, 0, 1, 1]$	$-6/5x^2 - 1/5x + 4/5$	1	0.2386	0.4224
31	$33966x^2 - 392929x + 321537$	$[1, -1, 0, 1]$	$3x^2 - x - 2$	1	0.1341	0.2249
32	$415573x^2 - 355503x - 11322$	$[0, 1, 1, 1]$	$-x$	0	0.1329	0.2303
33	$449539x^2 - 748432x + 310215$	$[0, 1, 2, 1]$	$4 - 2x - 3x^2$	0	0.05538	0.08487
34	$481106x^2 + 1818401x - 1989292$	$[1, 1, -4, 1]$	$3x^2 + 2x - 4$	1	0.05024	0.09516
35	$3530779x^2 - 8161360x + 4459690$	$[1, 8, -1, 1]$	$3x - 2$	1	0.5569	0.8274
36	$-9498655x^2 + 4663882x + 3326587$	$[1, -6, -2, 1]$	$-3/11x^2 + \frac{7}{11}x + 4/11$	1	0.5382	0.7339
37	$6448982x^2 + 5315879x - 9775569$	$[1, -1, -1, 1]$	$9x^2 + 3x - 10$	1	0.1558	0.2697
38	$19478416x^2 - 7509363x - 8642466$	$[1, -1, 1, 1]$	$1 + x - 3x^2$	1	0.2906	0.3910
39	$-9630125x^2 + 28120882x - 17357654$	$[1, 3, -1, 1]$	$-6x^2 - x + 6$	1	0.2433	0.3646
40	$35775689x^2 + 18418035x - 44418155$	$[1, 2, 1, 1]$	$-6/5x^2 - 1/5x + 9/5$	1	0.4131	0.7521

41	$45405814x^2 - 9702847x - 27060501$	$[0, -1, 1, 1]$	$1 + x - 3x^2$	0	0.2028	0.2841
42	$2962977x^2 - 82169162x + 70490997$	$[1, -2, -1, 1]$	$6x^2 + x - 5$	1	0.3973	0.6903
43	$84144480x^2 - 73453974x - 987659$	$[1, 1, 1, 1]$	$-x$	1	0.3692	0.6507
44	$42442837x^2 + 72466315x - 97551498$	$[1, -1, 0, 1]$	$3x^2 + x - 4$	1	0.3761	0.6548
45	$126587317x^2 - 987659x - 98539157$	$[0, 1, 1, 1]$	$-6/5x^2 - 1/5x + 4/5$	0	0.2024	0.3251
46	$87107457x^2 - 155623136x + 69503338$	$[1, 1, 0, 1]$	$3x^2 - x - 2$	-1	0.1622	0.2454
47	$213694774x^2 - 156610795x - 29035819$	$[0, 1, 1, 1]$	$-x$	0	0.2710	0.4216
48	$300802231x^2 - 312233931x + 40467519$	$[0, 1, 2, 1]$	$4 - 2x - 3x^2$	0	0.07430	0.1445
49	$-179399674x^2 + 693971200x - 474104007$	$[1, 1, -4, 1]$	$3x^2 + 2x - 4$	-1	0.04714	0.0722
50	$1242912347x^2 + 1821578888x - 2590387228$	$[1, 7, 6, 1]$	$4 - 2x - 3x^2$	-1	0.08434	0.1455
51	$493087276x^2 - 7685582419x + 6423686803$	$[1, -8, -1, 1]$	$3x - 2$	-1	0.4890	0.8325
52	$8264248960x^2 - 3747720310x - 3169053769$	$[1, 6, 2, 1]$	$3/11x^2 - 7/11x - 4/11$	-1	0.4033	0.5456
53	$749825071x^2 + 9507161307x - 9014074031$	$[1, -1, 0, 1]$	$-9x^2 - 3x + 9$	-1	0.3879	0.7390
54	$8757336236x^2 - 11433302729x + 3254633034$	$[1, 1, 0, 1]$	$x - 1/3$	-1	0.3101	0.5172
55	$9014074031x^2 + 5759440997x - 12183127800$	$[1, 1, 0, 1]$	$6/5x^2 + 1/5x - 9/5$	-1	0.2396	0.4243
56	$17771410267x^2 - 5673861732x - 8928494766$	$[0, 1, 1, 1]$	$1 + x - 3x^2$	0	0.2395	0.3244
57	$1006562866x^2 + 26699905033x - 24451834865$	$[1, -1, 1, 1]$	$-6x^2 - x + 6$	1	0.2172	0.3997
58	$44556894565x^2 - 5588282467x - 30040117332$	$[1, 2, 0, 1]$	$-6/5x^2 - 1/5x + 4/5$	1	0.1933	0.2843
59	$60315179100x^2 - 64661954265x + 9935057632$	$[1, -2, 1, 1]$	$3x^2 - x - 2$	1	0.2159	0.4088
60	$104872073665x^2 - 70250236732x - 20105059700$	$[0, 1, 1, 1]$	$-x$	0	0.5032	0.7475
61	$74362067461x^2 + 74597011897x - 124507244493$	$[1, 3, -1, 1]$	$12x^2 + 5x - 13$	-1	0.6065	1.041
62	$134677246561x^2 + 9935057632x - 114572186861$	$[1, 0, 1, 1]$	$-6/5x^2 - 1/5x + 4/5$	-1	0.2268	0.3922
63	$30510006204x^2 - 144847248629x + 104402184793$	$[1, -1, 0, 1]$	$3x^2 - x - 2$	-1	0.1391	0.2176
64	$165187252765x^2 - 134912190997x - 10170002068$	$[0, 1, 1, 1]$	$-x$	0	0.1603	0.2679
65	$195697258969x^2 - 279759439626x + 94232182725$	$[0, 1, 2, 1]$	$4 - 2x - 3x^2$	0	0.05906	0.0946
66	$86999289206x^2 + 663921064045x - 656688170526$	$[1, 1, -4, 1]$	$3x^2 + 2x - 4$	-1	0.04271	0.0852
67	$1643766035311x^2 - 3036908772050x + 1400375630258$	$[1, 8, -1, 1]$	$3x - 2$	-1	0.5886	0.8862
68	$-2057063800784x^2 - 1890298115891x + 3290673746149$	$[1, -7, -1, 1]$	$-\frac{12}{11}x^2 - \frac{5}{11}x + \frac{16}{11}$	-1	0.1348	0.2319
69	$-7314660382984x^2 + 2957142376363x + 3123908061256$	$[1, -2, 2, 1]$	$1 + x - 3x^2$	-1	0.3128	0.4210
70	$-4757299527521x^2 + 10438568444240x - 5514503231826$	$[1, -4, 2, 1]$	$6x^2 + x - 6$	-1	0.2559	0.3805
71	$-11929085039231x^2 - 6414581807405x + 15052993100487$	$[1, 2, -1, 1]$	$6/5x^2 + 1/5x - 9/5$	-1	0.3621	0.6553
72	$-16686384566752x^2 + 4023986636835x + 9538489868661$	$[0, 1, 1, 1]$	$1 + x - 3x^2$	0	0.2091	0.2895
73	$-4900174398795x^2 + 30248861072248x - 22958091502883$	$[1, 2, -1, 1]$	$6x^2 + x - 5$	1	0.4110	0.6585
74	$11786210167957x^2 + 26224874435413x - 32496581371544$	$[0, -1, 1, 1]$	$-x^2 - x + 1$	0	0.3185	0.5679
75	$-45301854172735x^2 + 1633391466265x + 34129972837809$	$[1, 2, 0, 1]$	$6/5x^2 + 1/5x - 4/5$	1	0.1979	0.3105
76	$-38415818403573x^2 + 58107126973926x - 21324700036618$	$[1, 1, 1, 1]$	$3x^2 - x - 2$	1	0.1726	0.2713
77	$-83717672576308x^2 + 59740518440191x + 12805272801191$	$[0, 1, 1, 1]$	$-x$	0	0.3175	0.4866
78	$-122133490979881x^2 + 117847645414117x - 8519427235427$	$[0, 1, 2, 1]$	$4 - 2x - 3x^2$	0	0.08678	0.1680
79	$-96575209273600x^2 + 257019990864852x - 151925354355825$	$[1, -1, 4, 1]$	$4 - 2x - 3x^2$	1	0.04935	0.0735
80	$-359200853793875x^2 - 657445908850102x + 864721408288152$	$[1, 7, -6, 1]$	$3x^2 + 2x - 4$	1	0.07174	0.1256

Number:  $\xi = .9093\dots$  Equation:  $3x^3 + 2x^2 - x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 2/3x + 4/3$	0	0.08246	0.1649
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 - 2/3x + 4/3$	-1	0.03290	0.04934
3	$10x^2 - 8x - 1$	[1, 10, -1, 1]	$2 - 3x$	-1	0.5986	0.9878
4	$11x^2 - 10x$	[0, 1, 1, 1]	$-\frac{9}{17}x^2 - \frac{12}{17}x + \frac{12}{17}$	0	0.2707	0.4945
5	$11x^2 - 21x + 10$	[1, 10, 0, 1]	$-x^2 - 2/3x + 4/3$	1	0.09840	0.1477
6	$31x^2 + 18x - 42$	[2, 5, -4, 1]	$x^2 - 1/3x - 1$	2	0.1875	0.3240
7	$73x^2 + 15x - 74$	[0, 1, 2, 1]	$-x^2 - 2/3x + 4/3$	0	0.05803	0.1169
8	$194x^2 - 205x + 26$	[1, 11, 2, 1]	$-3x^2 + x + 2$	-2	0.1910	0.3650
9	$315x^2 - 425x + 126$	[0, -1, 2, 1]	$-6/7x^2 - x + \frac{9}{7}$	0	0.2728	0.4466
10	$635x^2 - 231x - 315$	[1, 9, 3, 2]	$-x$	-1	0.5537	0.7632
11	$-761x^2 - 168x + 782$	[1, 1, -2, 1]	$-1/3x^2 + \frac{7}{9}x - 2/9$	-1	0.1758	0.3505
12	$189x^2 - 824x + 593$	[1, 1, 1, 1]	$x^2 - 1/3x$	-1	0.1023	0.1606
13	$950x^2 - 656x - 189$	[0, -1, 1, 1]	$-x$	0	0.1236	0.1874
14	$1139x^2 - 1480x + 404$	[0, -1, 2, 1]	$-x^2 - 2/3x + 4/3$	0	0.02991	0.04986
15	$7930x^2 + 1874x - 8261$	[2, -9, -1, 1]	$3x^2 - x - 1$	2	0.5324	1.050
16	$2205x^2 - 8665x + 6056$	[1, 10, -1, 2]	$-x^2 + 1/3x$	1	0.3068	0.4765
17	$10135x^2 - 6791x - 2205$	[0, 1, 1, 1]	$-x$	0	0.3816	0.5711
18	$-4586x^2 - 12019x + 14721$	[1, -1, 1, 1]	$-x^2 + 1/3x + 1$	-1	0.3835	0.6763
19	$12340x^2 - 15456x + 3851$	[1, 1, 0, 1]	$1/3x^2 - \frac{7}{9}x + 2/9$	-1	0.08852	0.1504
20	$19307x^2 + 17247x - 31647$	[1, -2, 0, 1]	$x^2 - 1/3x - 1$	-1	0.1767	0.2950
21	$50954x^2 + 19038x - 59443$	[0, 1, 2, 1]	$-x^2 - 2/3x + 4/3$	0	0.06219	0.1143
22	$133535x^2 - 161351x + 36305$	[2, 10, 1, 1]	$1 + x - 3x^2$	2	0.2617	0.4543
23	$184489x^2 - 142313x - 23138$	[0, 1, 1, 1]	$-1/3x^2 - \frac{8}{9}x + 1/3$	0	0.2568	0.4137
24	$318024x^2 - 303664x + 13167$	[0, 1, 2, 1]	$-6/7x^2 - x + \frac{9}{7}$	0	0.2536	0.4853
25	$515680x^2 - 119175x - 318024$	[1, 12, 3, 2]	$-x$	1	0.6064	0.8694
26	$-528847x^2 - 207627x + 626077$	[1, 1, -2, 1]	$-1/3x^2 + \frac{7}{9}x - 2/9$	1	0.1872	0.3413
27	$304857x^2 - 630466x + 321220$	[1, 1, 1, 1]	$x^2 - 1/3x$	1	0.09941	0.1485
28	$833704x^2 - 422839x - 304857$	[0, -1, 1, 1]	$-x$	0	0.1581	0.2199
29	$1138561x^2 - 1053305x + 16363$	[0, -1, 2, 1]	$-x^2 - 2/3x + 4/3$	0	0.02940	0.05457
30	$5486126x^2 + 2260759x - 6591961$	[2, -9, -1, 1]	$3x^2 - x - 1$	-2	0.5630	1.019
31	$3366594x^2 - 6608324x + 3225367$	[1, 10, -1, 2]	$-x^2 + 1/3x$	-1	0.2963	0.4438
32	$8852720x^2 - 4347565x - 3366594$	[0, 1, 1, 1]	$-x$	0	0.4836	0.6701
33	$-980971x^2 - 9922388x + 9833691$	[1, -1, 1, 1]	$-x^2 + 1/3x + 1$	1	0.2893	0.5763
34	$12219314x^2 - 10955889x - 141227$	[1, 1, 0, 1]	$1/3x^2 - \frac{7}{9}x + 2/9$	1	0.09188	0.1658
35	$10814662x^2 + 15497211x - 23033976$	[1, -2, 0, 1]	$x^2 - 1/3x - 1$	1	0.1555	0.2601
36	$33848638x^2 + 20038533x - 46209179$	[0, 1, 2, 1]	$-x^2 - 2/3x + 4/3$	0	0.06241	0.1076
37	$131045860x^2 - 113906455x - 4778864$	[2, 10, 1, 1]	$1 + x - 3x^2$	-2	0.2867	0.5037
38	$164894498x^2 - 93867922x - 50988043$	[0, 1, 1, 1]	$-1/3x^2 - \frac{8}{9}x + 1/3$	0	0.3407	0.4837
39	$109127591x^2 + 164894498x - 240173451$	[1, 10, -1, 2]	$\frac{9}{7}x^2 - 3/7$	1	0.4587	0.7696
40	$-55766907x^2 + 258762420x - 189185408$	[0, -1, 1, 1]	$1/3 - x$	0	0.3067	0.4848



41	$295940358x^2 - 207774377x - 55766907$	$[1, 1, 0, 1]$	$x$	1	0.3647	0.5575
42	$405067949x^2 - 42879879x - 295940358$	$[1, 0, 1, 1]$	$-x$	1	0.6213	0.9600
43	$53360684x^2 + 423656918x - 429358859$	$[1, -1, 1, 1]$	$4/3x^2 - 1/9x - 1/9$	1	0.6215	1.236
44	$-351707265x^2 + 466536797x - 133418501$	$[0, -1, 1, 1]$	$\frac{3}{19}x^2 - \frac{13}{19}x + \frac{7}{19}$	0	0.09040	0.1492
45	$701008307x^2 - 250654256x - 351707265$	$[1, 1, 0, 1]$	$x$	1	0.1856	0.2560
46	$1052715572x^2 - 717191053x - 218288764$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 4/3$	0	0.04174	0.06291
47	$-3813013008x^2 + 4873142347x - 1278418103$	$[1, 9, -1, 1]$	$3x^2 + 2x - 4$	1	0.2676	0.4499
48	$7415151019x^2 - 2549422439x - 3813013008$	$[1, 10, 1, 1]$	$x$	1	0.5634	0.7790
49	$1263590569x^2 - 7914053308x + 6151560450$	$[1, -2, -1, 1]$	$-x^2 + 1/3x + 1$	1	0.3056	0.4981
50	$-11228164027x^2 + 7422564786x + 2534594905$	$[1, -1, 0, 1]$	$-1/3x^2 + \frac{7}{9}x - 2/9$	1	0.1288	0.1917
51	$4887969881x^2 + 13278684177x - 16116133908$	$[1, -2, 0, 1]$	$-x^2 + 1/3x + 1$	1	0.1264	0.2238
52	$21004103789x^2 + 19134803568x - 34766862721$	$[0, -1, 2, 1]$	$-x^2 - 2/3x + 4/3$	0	0.05867	0.09785
53	$119696791289x^2 - 76775070299x - 29158962058$	$[2, -10, 1, 1]$	$1 + x - 3x^2$	2	0.3972	0.5842
54	$140700895078x^2 - 57640266731x - 63925824779$	$[0, 1, 1, 1]$	$-1/3x^2 - \frac{8}{9}x + 1/3$	0	0.4120	0.5662
55	$47616108241x^2 + 140700895078x - 167312899530$	$[1, 10, -1, 2]$	$\frac{9}{7}x^2 - 3/7$	-1	0.3696	0.6610
56	$-93084786837x^2 + 198341161809x - 103387074751$	$[0, -1, 1, 1]$	$1/3 - x$	0	0.2992	0.4464
57	$260397686367x^2 - 134415337030x - 93084786837$	$[1, 1, 0, 1]$	$x$	-1	0.4689	0.6538
58	$308013794608x^2 + 6285558048x - 260397686367$	$[1, 0, 1, 1]$	$-x$	-1	0.5966	1.023
59	$-45468678596x^2 + 339042056887x - 270699974281$	$[1, -1, 1, 1]$	$4/3x^2 - 1/9x - 1/9$	-1	0.6436	1.065
60	$-353482473204x^2 + 332756498839x - 10302287914$	$[0, -1, 1, 1]$	$\frac{3}{19}x^2 - \frac{13}{19}x + \frac{7}{19}$	0	0.08618	0.1626
61	$568411480975x^2 - 128129778982x - 353482473204$	$[1, 1, 0, 1]$	$x$	-1	0.2026	0.2913
62	$921893954179x^2 - 460886277821x - 343180185290$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 4/3$	0	0.05316	0.07381
63	$1275012231772x^2 + 2647854371469x - 3461980325420$	$[2, 9, 8, 1]$	$3x^2 - x - 2$	-2	0.3214	0.5530
64	$3795222418407x^2 - 3461980325420x + 9938092303$	$[1, 9, -1, 2]$	$-3/7x^2 + x + 1/7$	-1	0.2695	0.4938
65	$5992128604358x^2 - 1275012231772x - 3795222418407$	$[1, 1, 1, 1]$	$-x$	-1	0.6110	0.8837
66	$-2520210186635x^2 + 6109834696889x - 3471918417723$	$[1, -1, 0, 1]$	$x^2 - 1/3x - 1$	-1	0.3025	0.4517
67	$9787351022765x^2 - 4736992557192x - 3785284326104$	$[1, 1, 0, 1]$	$-1/3x^2 + \frac{7}{9}x - 2/9$	-1	0.1626	0.2250
68	$951708231088x^2 + 10944657162006x - 10739059253853$	$[1, 2, 0, 1]$	$x^2 - 1/3x - 1$	-1	0.09681	0.1908
69	$11690767484941x^2 + 17152321766820x - 25263402833810$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 4/3$	0	0.05144	0.08617
70	$-4693895360696x^2 + 98404084550129x - 85599108122443$	$[1, -1, 8, 1]$	$2 - 3x$	1	0.5682	0.9994
71	$103865638832008x^2 - 48644937803692x - 41648065679447$	$[1, 8, -2, 1]$	$-\frac{3}{17}x^2 + \frac{13}{17}x + \frac{4}{17}$	1	0.4967	0.6855
72	$6996872124245x^2 + 115556406316949x - 110862510956253$	$[1, 1, 0, 1]$	$x^2 - 1/3x - 1$	1	0.2928	0.5634
73	$-108559534192704x^2 + 147049022353821x - 43951042442996$	$[1, -1, 0, 1]$	$1/3 - x$	1	0.2731	0.4464
74	$219422045148957x^2 - 80137553840564x - 108559534192704$	$[1, 1, -1, 1]$	$x$	1	0.5530	0.7621
75	$226418917273202x^2 + 35418852476385x - 219422045148957$	$[1, 0, 1, 1]$	$-x$	1	0.5354	1.051
76	$-101562662068459x^2 + 262605428670770x - 154813553399249$	$[1, -1, 1, 1]$	$4/3x^2 - 1/9x - 1/9$	1	0.6412	0.9600
77	$117859383080498x^2 + 182467874830206x - 263373087591953$	$[1, 0, 1, 1]$	$-\frac{12}{19}x^2 - \frac{5}{19}x + \frac{10}{19}$	1	0.1517	0.2549
78	$327981579341661x^2 - 227186576194385x - 64608491749708$	$[1, -1, 0, 1]$	$-x^2 + 1/3x$	1	0.1232	0.1871
79	$445840962422159x^2 - 44718701364179x - 327981579341661$	$[0, 1, 1, 1]$	$-x$	0	0.2070	0.3212
80	$773822541763820x^2 - 271905277558564x - 392590071091369$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 4/3$	0	0.06220	0.08589

Number:  $\xi = .7980\dots$  Equation:  $3x^3 + 2x^2 - x - 2 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-3/2x^2 - x + 3/2$	0	0.1612	0.3224
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-3/2x^2 - x + 3/2$	-1	0.1632	0.2449
3	$x^2 + 3x - 3$	[1, 3, -3, 1]	$3/2x^2 + x - 1$	-1	0.2766	0.5840
4	$5x^2 - 4x$	[1, 3, 1, 1]	$-6/7x^2 + 5/7x - 2/7$	-1	0.2010	0.3296
5	$5x^2 - 9x + 4$	[1, -1, 1, 1]	$-3/2x^2 - x + 3/2$	-1	0.1648	0.2483
6	$x^2 + 18x - 15$	[1, 3, -3, 1]	$3/2x^2 + x - 3/2$	-1	0.1669	0.2833
7	$23x^2 + 23x - 33$	[1, 3, 3, 1]	$-3/2x^2 - x + 1$	-1	0.4225	0.8331
8	$25x^2 - 40x + 16$	[1, -3, 1, 1]	$-6/7x^2 + 5/7x - 2/7$	-1	0.1624	0.2518
9	$-x^2 + 81x - 64$	[1, 1, -1, 1]	$3/2x^2 + x - 3/2$	-1	0.1686	0.2738
10	$123x^2 - 137x + 31$	[1, 4, 0, 1]	$3/2x - 1/2$	-1	0.3361	0.6242
11	$-95x^2 - 146x + 177$	[1, -3, -1, 1]	$-x^2 + 1$	-1	0.2038	0.4011
12	$-313x^2 - 155x + 323$	[0, -1, 2, 1]	$-3/2x^2 - x + 1$	0	0.5110	1.109
13	$-342x^2 + 209x + 51$	[1, -2, 1, 1]	$-6/7x^2 + 5/7x + 5/7$	-1	0.4231	0.5905
14	$-29x^2 + 364x - 272$	[0, -1, 1, 1]	$-3/2x^2 - 1/2x + 1$	0	0.1697	0.2656
15	$-379x^2 - 665x + 772$	[1, 2, -1, 1]	$3/2x^2 + x - 3/2$	-1	0.1933	0.3833
16	$-429x^2 + 1301x - 765$	[1, 3, 0, 1]	$3/2x - 1/2$	-1	0.3826	0.5565
17	$1587x^2 - 908x - 286$	[1, -2, -2, 1]	$x$	-1	0.4543	0.6177
18	$-1537x^2 - 1058x + 1823$	[1, -1, -1, 1]	$-3/2x^2 + 1/2$	-1	0.2728	0.5587
19	$-2016x^2 + 2209x - 479$	[1, -1, 0, 1]	$-3/2x^2 + 1/2x$	-1	0.2228	0.4189
20	$-1487x^2 - 3024x + 3360$	[1, 2, 0, 1]	$3/2x^2 + 1/2x - 1$	-1	0.1826	0.3662
21	$-5569x^2 + 3360x + 865$	[1, 2, 0, 1]	$-3/4x^2 + x + 1/4$	-1	0.2861	0.3971
22	$-4082x^2 + 6384x - 2495$	[0, -1, 1, 1]	$-3/2x^2 - x + 1$	0	0.2831	0.4422
23	$6527x^2 + 4897x - 8064$	[1, -2, -1, 1]	$-\frac{9}{7}x^2 - 3/7x + 4/7$	-1	0.2662	0.5388
24	$-9651x^2 + 9744x - 1630$	[1, 1, 0, 1]	$3/2x^2 - 1/2x$	-1	0.2162	0.4343
25	$-16178x^2 + 4847x + 6434$	[0, -1, 1, 1]	$-x$	0	0.4756	0.5935
26	$18623x^2 + 6434x - 16993$	[1, 2, -1, 1]	$-3/4x^2 + x + 1/4$	-1	0.3595	0.7016
27	$-7206x^2 + 21025x - 12189$	[1, 1, 1, 1]	$3/2x^2 - 1/2x$	-1	0.2548	0.3704
28	$-25829x^2 + 14591x + 4804$	[0, -1, 1, 1]	$-x$	0	0.3069	0.4154
29	$-33035x^2 + 35616x - 7385$	[0, -1, 2, 1]	$-3/2x^2 - x + 3/2$	0	0.1477	0.2812
30	$5440x^2 - 58228x + 43001$	[1, 0, -3, 1]	$3/2x^2 + x - 1$	1	0.2974	0.4621
31	$-81019x^2 - 30633x + 76036$	[1, 2, 2, 1]	$-\frac{9}{7}x^2 - 3/7x + 4/7$	1	0.3393	0.6866
32	$-38475x^2 + 93844x - 50386$	[1, -1, 0, 1]	$-3/2x^2 + 1/2x$	1	0.2531	0.3687
33	$-119494x^2 + 63211x + 25650$	[0, 1, 1, 1]	$-x$	0	0.3275	0.4343
34	$-157969x^2 + 157055x - 24736$	[0, 1, 2, 1]	$-3/2x^2 - x + 3/2$	0	0.1449	0.2917
35	$120865x^2 - 339760x + 194159$	[1, 0, -3, 1]	$3/2x^2 + x - 3/2$	1	0.1697	0.2466
36	$-230806x^2 - 484904x + 533919$	[1, 3, 3, 1]	$-3/2x^2 - x + 1$	1	0.3156	0.6349
37	$-751370x^2 + 691431x - 73294$	[1, -3, 1, 1]	$-6/7x^2 + 5/7x - 2/7$	1	0.1635	0.3035
38	$641429x^2 - 1516095x + 801372$	[1, 1, -1, 1]	$3/2x^2 + x - 3/2$	1	0.1685	0.2457
39	$-560629x^2 - 2958896x + 2718153$	[1, 3, 3, 1]	$-3/2x^2 - x + 3/2$	1	0.1625	0.3054
40	$-4357544x^2 - 3636972x + 5677049$	[1, -3, 3, 1]	$-3/2x^2 - x + 1$	1	0.4505	0.9007

41	$3317086x^2 - 6755811x + 3278782$	$[1, 3, -1, 1]$	$6/7x^2 - 5/7x + 2/7$	1	0.1668	0.2464
42	$-1601087x^2 - 13351679x + 11673984$	$[1, 1, 1, 1]$	$-3/2x^2 - x + 3/2$	1	0.1650	0.2935
43	$-17625888x^2 + 23386272x - 7438079$	$[1, -4, 0, 1]$	$3/2x - 1/2$	1	0.3528	0.5888
44	$-19112063x^2 - 23424576x + 30862655$	$[1, 3, 1, 1]$	$x^2 - 1$	1	0.2231	0.4373
45	$52762752x^2 - 36699647x - 4312513$	$[1, -2, -1, 1]$	$3/2x^2 - 1/2x$	1	0.3627	0.5406
46	$-3087262x^2 - 60162527x + 49974718$	$[1, 2, 1, 1]$	$-3/2x^2 - 1/2x + 1$	1	0.1670	0.2827
47	$-121550305x^2 + 110137245x - 10487037$	$[1, -2, -1, 1]$	$-3/4x^2 + x - 3/4$	1	0.2929	0.5356
48	$-78049339x^2 - 107049983x + 135124604$	$[1, 3, 1, 1]$	$\frac{9}{7}x^2 + 3/7x - 4/7$	1	0.2133	0.4183
49	$43500966x^2 - 217187228x + 145611641$	$[0, -1, 1, 1]$	$1/2 - 3/2x$	0	0.3841	0.5721
50	$-246187872x^2 + 160111963x + 29000644$	$[1, 2, 0, 1]$	$x$	1	0.3938	0.5658
51	$-280736245x^2 - 164125248x + 309736889$	$[1, 1, 1, 1]$	$3/2x^2 - 1/2$	1	0.2837	0.5965
52	$289688838x^2 - 377299191x + 116610997$	$[1, -1, 0, 1]$	$3/2x^2 - 1/2x$	1	0.2342	0.3946
53	$570425083x^2 - 213173943x - 193125892$	$[0, -1, 1, 1]$	$-x$	0	0.4271	0.5357
54	$315284618x^2 + 488362459x - 590473134$	$[1, -2, 0, 1]$	$3/2x^2 - 1/2x - 1$	1	0.2031	0.4000
55	$860113921x^2 - 590473134x - 76514895$	$[1, 1, 0, 1]$	$-3/4x^2 + x + 1/4$	1	0.2458	0.3636
56	$544829303x^2 - 1078835593x + 513958239$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1$	0	0.2913	0.4317
57	$1200994319x^2 + 763550975x - 1374072160$	$[1, 2, 0, 1]$	$\frac{9}{7}x^2 + 3/7x - 4/7$	1	0.2784	0.5771
58	$1404943224x^2 - 1669308727x + 437443344$	$[1, 1, 0, 1]$	$-3/2x^2 + 1/2x$	1	0.2286	0.4062
59	$2605937543x^2 - 905757752x - 936628816$	$[0, 1, 1, 1]$	$-x$	0	0.4445	0.5556
60	$-3262102559x^2 - 936628816x + 2824659215$	$[1, -2, -1, 1]$	$-3/4x^2 + x + 1/4$	-1	0.3973	0.7279
61	$748778208x^2 - 3511695295x + 2325473743$	$[1, 1, 1, 1]$	$3/2x^2 - 1/2x$	-1	0.2561	0.3800
62	$4010880767x^2 - 2575066479x - 499185472$	$[0, -1, 1, 1]$	$-x$	0	0.2666	0.3806
63	$4759658975x^2 - 6086761774x + 1826288271$	$[0, -1, 2, 1]$	$-3/2x^2 - x + 3/2$	0	0.1554	0.2644
64	$359602919x^2 + 9629328133x - 7913050045$	$[1, 0, -3, 1]$	$3/2x^2 + x - 1$	1	0.2929	0.4912
65	$14249404555x^2 + 4510066239x - 12672709020$	$[1, 2, 2, 1]$	$-\frac{9}{7}x^2 - 3/7x + 4/7$	1	0.3780	0.7149
66	$4400056056x^2 - 15716089907x + 9739338316$	$[1, -1, 0, 1]$	$-3/2x^2 + 1/2x$	1	0.2558	0.3740
67	$18649460611x^2 - 11206023668x - 2933370704$	$[0, 1, 1, 1]$	$-x$	0	0.2874	0.3982
68	$23049516667x^2 - 26922113575x + 6805967612$	$[0, 1, 2, 1]$	$-3/2x^2 - x + 3/2$	0	0.1516	0.2724
69	$-12840565249x^2 + 56777597854x - 37131064993$	$[1, 0, -3, 1]$	$3/2x^2 + x - 3/2$	1	0.1707	0.2524
70	$49276314865x^2 + 78360429169x - 93908662847$	$[1, 3, 3, 1]$	$-3/2x^2 - x + 1$	1	0.3517	0.6935
71	$110847527279x^2 - 118894477968x + 24290499744$	$[1, -3, 1, 1]$	$-6/7x^2 + 5/7x - 2/7$	1	0.1474	0.2818
72	$-74411777663x^2 + 254032504991x - 155330227584$	$[1, 1, -1, 1]$	$3/2x^2 + x - 3/2$	1	0.1704	0.2487
73	$158583563713x^2 + 483774510238x - 487027846367$	$[1, 3, 3, 1]$	$-3/2x^2 - x + 3/2$	1	0.1586	0.3318
74	$809833551407x^2 + 570331537773x - 970802356605$	$[1, -3, 3, 1]$	$-3/2x^2 - x + 1$	1	0.4745	0.9685
75	$-408494637931x^2 + 1135024497932x - 645611410080$	$[1, 3, -1, 1]$	$6/7x^2 - 5/7x + 2/7$	1	0.1696	0.2465
76	$559922477189x^2 + 2189130545943x - 2103441613052$	$[1, 1, 1, 1]$	$-3/2x^2 - x + 3/2$	1	0.1598	0.3177
77	$2443812103131x^2 - 3969766453955x + 1611643283715$	$[1, -4, 0, 1]$	$3/2x - 1/2$	1	0.3661	0.5652
78	$3715084896767x^2 + 3732649681806x - 5344292965521$	$[1, 3, 1, 1]$	$x^2 - 1$	1	0.2410	0.4751
79	$-8042786625840x^2 + 6396013772047x + 17564785039$	$[1, -2, -1, 1]$	$3/2x^2 - 1/2x$	1	0.3036	0.4956
80	$1831195270825x^2 + 9891546681704x - 9059377862288$	$[1, 2, 1, 1]$	$-3/2x^2 - 1/2x + 1$	1	0.1626	0.3046

Number:  $\xi = .6465\dots$  Equation:  $3x^3 + 2x^2 - x - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$3 - x - 6x^2$	-1	0.06444	0.1933
2	$-3x^2 + 2x$	$[2, -3, 0, 1]$	$-3x^2 + x$	-2	0.3522	0.5088
3	$-x^2 - 4x + 3$	$[1, 6, -1, 2]$	$3x^2 + x - 2$	-1	0.06241	0.1014
4	$-10x^2 - 9x + 10$	$[1, 2, 3, 1]$	$-3x^2 - 2x + 2$	-1	0.2133	0.5994
5	$11x^2 + 13x - 13$	$[0, -1, -1, 1]$	$x^2 + 5/3x - 2/3$	0	0.2987	0.8114
6	$8x^2 - 16x + 7$	$[1, 9, -2, 1]$	$-3/5x^2 + 4/5x - 2/5$	-1	0.06045	0.08713
7	$-13x^2 - 38x + 30$	$[1, -1, 1, 1]$	$-3x^2 - 2x + 2$	-1	0.1864	0.3245
8	$-5x^2 - 54x + 37$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3120	0.4612
9	$80x^2 - 61x + 6$	$[1, 7, -1, 1]$	$3/5x^2 - 4/5x + 2/5$	1	0.09148	0.1452
10	$62x^2 - 153x + 73$	$[1, 1, 1, 1]$	$-3x^2 - 2x + 2$	1	0.1830	0.2547
11	$142x^2 - 214x + 79$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.2966	0.4677
12	$-299x^2 - 147x + 220$	$[1, -6, 3, 1]$	$-9/5x^2 - 3/5x + 4/5$	-1	0.1970	0.3513
13	$204x^2 - 367x + 152$	$[1, 1, 0, 1]$	$3x^2 - x$	-1	0.1803	0.2669
14	$503x^2 - 220x - 68$	$[0, -1, 1, 1]$	$-x$	0	0.2189	0.2648
15	$707x^2 - 587x + 84$	$[0, -1, 2, 1]$	$-3x^2 - 2x + 2$	0	0.2365	0.4029
16	$-755x^2 - 655x + 739$	$[1, 3, 0, 1]$	$-2x^2 - 1/3x + 4/3$	1	0.07604	0.2061
17	$1917x^2 - 1394x + 100$	$[1, 2, 0, 1]$	$3x^2 - x$	1	0.2977	0.4560
18	$2672x^2 - 739x - 639$	$[0, -1, 1, 1]$	$-x$	0	0.3740	0.4240
19	$1055x^2 + 2772x - 2233$	$[1, -3, -1, 1]$	$6x^2 + x - 3$	1	0.06205	0.1113
20	$7754x^2 + 6183x - 7238$	$[1, 1, 3, 1]$	$-3x^2 - 2x + 2$	1	0.2655	0.6656
21	$8809x^2 + 8955x - 9471$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3283	0.9057
22	$4096x^2 - 11188x + 5521$	$[1, -6, 1, 1]$	$-3/5x^2 + 4/5x - 2/5$	-1	0.06119	0.08429
23	$12467x^2 + 26326x - 22230$	$[1, 1, -1, 1]$	$3x^2 + 2x - 2$	-1	0.1853	0.3589
24	$8371x^2 + 37514x - 27751$	$[0, -1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3118	0.4979
25	$49948x^2 - 43035x + 6946$	$[1, 7, 1, 1]$	$-3/5x^2 + 4/5x - 2/5$	-1	0.07383	0.1301
26	$-29110x^2 + 106875x - 56927$	$[1, 1, -1, 1]$	$3x^2 + 2x - 2$	-1	0.1848	0.2510
27	$-79058x^2 + 149910x - 63873$	$[0, -1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3014	0.4399
28	$220729x^2 + 99929x - 156856$	$[1, 6, 3, 1]$	$-9/5x^2 - 3/5x + 4/5$	-1	0.2223	0.3801
29	$-108168x^2 + 256785x - 120800$	$[1, 1, 0, 1]$	$3x^2 - x$	-1	0.1827	0.2556
30	$-328897x^2 + 156856x + 36056$	$[0, -1, 1, 1]$	$-x$	0	0.1938	0.2402
31	$-437065x^2 + 413641x - 84744$	$[0, -1, 2, 1]$	$-3x^2 - 2x + 2$	0	0.1871	0.3617
32	$583129x^2 + 449697x - 534441$	$[1, 3, 0, 1]$	$-2x^2 - 1/3x + 4/3$	1	0.09391	0.2286
33	$-1203027x^2 + 984138x - 133432$	$[1, 2, 0, 1]$	$3x^2 - x$	1	0.2428	0.4082
34	$-1786156x^2 + 534441x + 401009$	$[0, -1, 1, 1]$	$-x$	0	0.3460	0.3944
35	$-983425x^2 - 1919588x + 1652011$	$[1, -3, -1, 1]$	$6x^2 + x - 3$	1	0.06160	0.1234
36	$-2808489x^2 + 5892196x - 2635436$	$[1, 2, -2, 1]$	$3x - 1$	1	0.5453	0.7783
37	$5939458x^2 + 4240185x - 5223610$	$[1, -5, -1, 1]$	$-x^2 + 1$	1	0.3225	0.7363
38	$-6922883x^2 - 6159773x + 6875621$	$[1, 0, -1, 1]$	$x^2 + 5/3x - 2/3$	1	0.3631	1.009
39	$-1825064x^2 + 7811784x - 4287447$	$[1, -1, -1, 1]$	$-3/5x^2 + 4/5x - 2/5$	1	0.06176	0.08373
40	$11037277x^2 + 18211742x - 16386678$	$[1, -1, 1, 1]$	$-3x^2 - 2x + 2$	1	0.1835	0.3996

41	$9212213x^2 + 26023526x - 20674125$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3106	0.5456
42	$-30735608x^2 + 30310973x - 6749830$	$[1, 7, -1, 1]$	$3/5x^2 - 4/5x + 2/5$	-1	0.05787	0.1170
43	$-10486118x^2 + 74546241x - 43810633$	$[1, 1, 1, 1]$	$-3x^2 - 2x + 2$	-1	0.1862	0.2541
44	$-41221726x^2 + 104857214x - 50560463$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3053	0.4234
45	$162167507x^2 + 67796411x - 111607044$	$[1, -6, 3, 1]$	$-9/5x^2 - 3/5x + 4/5$	1	0.2484	0.4095
46	$-51707844x^2 + 179403455x - 94371096$	$[1, 1, 0, 1]$	$3x^2 - x$	1	0.1846	0.2511
47	$-213875351x^2 + 111607044x + 17235948$	$[0, -1, 1, 1]$	$-x$	0	0.1696	0.2169
48	$-265583195x^2 + 291010499x - 77135148$	$[0, -1, 2, 1]$	$-3x^2 - 2x + 2$	0	0.1717	0.3268
49	$445280795x^2 + 308246447x - 385381595$	$[1, 3, 0, 1]$	$-2x^2 - 1/3x + 4/3$	-1	0.1134	0.2526
50	$-745041741x^2 + 693628042x - 137034348$	$[1, 2, 0, 1]$	$3x^2 - x$	-1	0.1928	0.3664
51	$-1190322536x^2 + 385381595x + 248347247$	$[0, -1, 1, 1]$	$-x$	0	0.3181	0.3653
52	$-856383839x^2 - 1327356884x + 1216043985$	$[1, -3, -1, 1]$	$6x^2 + x - 3$	-1	0.06098	0.1375
53	$-1412919135x^2 + 4119105000x - 2072427824$	$[1, 2, -2, 1]$	$3x - 1$	-1	0.5517	0.7563
54	$4504515794x^2 + 2903061015x - 3759444854$	$[1, -5, -1, 1]$	$-x^2 + 1$	-1	0.3840	0.8110
55	$-5360899633x^2 - 4230417899x + 4975488839$	$[1, 0, -1, 1]$	$x^2 + 5/3x - 2/3$	-1	0.4508	1.120
56	$-556535296x^2 + 5446461884x - 3288471809$	$[1, -1, -1, 1]$	$-3/5x^2 + 4/5x - 2/5$	-1	0.06215	0.08546
57	$9308880131x^2 + 12579940798x - 12023405502$	$[1, -1, 1, 1]$	$-3x^2 - 2x + 2$	-1	0.1813	0.4462
58	$8752344835x^2 + 18026402682x - 15311877311$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3085	0.6039
59	$-18565526836x^2 + 21314874491x - 6020408322$	$[1, 7, -1, 1]$	$3/5x^2 - 4/5x + 2/5$	1	0.05762	0.1059
60	$-504301870x^2 + 51921217971x - 33355691135$	$[1, 1, 1, 1]$	$-3x^2 - 2x + 2$	1	0.1870	0.2641
61	$-19069828706x^2 + 73236092462x - 39376099457$	$[0, 1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3083	0.4183
62	$118632600241x^2 + 45900809649x - 79256500784$	$[1, -6, 3, 1]$	$-9/5x^2 - 3/5x + 4/5$	-1	0.2752	0.4392
63	$-19574130576x^2 + 125157310433x - 72731790592$	$[1, 1, 0, 1]$	$3x^2 - x$	-1	0.1860	0.2534
64	$-138206730817x^2 + 79256500784x + 6524710192$	$[0, -1, 1, 1]$	$-x$	0	0.1467	0.1952
65	$-157780861393x^2 + 204413811217x - 66207080400$	$[0, -1, 2, 1]$	$-3x^2 - 2x + 2$	0	0.1754	0.2983
66	$-295987592210x^2 + 283670312001x - 59682370208$	$[0, -2, 3, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3048	0.5972
67	$336827972017x^2 + 210938521409x - 277145601809$	$[1, 3, 0, 1]$	$-9/5x^2 - 3/5x + 4/5$	-1	0.1343	0.2779
68	$-453768453603x^2 + 488084123218x - 125889450608$	$[1, 1, 0, 1]$	$3x^2 - x$	-1	0.1713	0.3307
69	$-790596425620x^2 + 277145601809x + 151256151201$	$[0, -1, 1, 1]$	$-x$	0	0.2905	0.3368
70	$714496323841x^2 + 916485876228x - 891119175635$	$[1, 3, 0, 1]$	$3 - x - 6x^2$	-1	0.06019	0.1537
71	$-605968657161x^2 + 2875347079292x - 1605615499476$	$[1, 2, 2, 1]$	$1 - 3x$	-1	0.5566	0.7548
72	$3279326184066x^2 - 1807605051863x - 201989552387$	$[1, 4, -2, 1]$	$x$	-1	0.4680	0.6120
73	$3387853850746x^2 + 1984227903657x - 2698724227498$	$[1, 1, 1, 1]$	$3x^2 + x - 1$	-1	0.4497	0.8894
74	$108527666680x^2 + 3791832955520x - 2496734675111$	$[0, -1, 1, 1]$	$x^2 - 4/3x + 1/3$	0	0.06237	0.08946
75	$-7598731692013x^2 - 8676774639062x + 8785302305742$	$[1, 2, -4, 1]$	$3x^2 + 2x - 2$	-1	0.1831	0.4986
76	$7707259358693x^2 + 12468607594582x - 11282036980853$	$[0, 1, -1, 1]$	$x^2 + 5/3x - 2/3$	0	0.3056	0.6726
77	$-10941388199840x^2 + 14965342269693x - 5101997016902$	$[1, 8, 2, 1]$	$3/5x^2 - 4/5x + 2/5$	1	0.05881	0.09708
78	$-4364602850866x^2 - 36110724503337x + 25169336303497$	$[1, -1, -1, 1]$	$3x^2 + 2x - 2$	1	0.1872	0.2809
79	$6576785348974x^2 - 51076066773030x + 30271333320399$	$[0, -1, 1, 1]$	$-x^2 - 5/3x + 2/3$	0	0.3104	0.4246
80	$82084794259465x^2 - 5101997016902x - 31008727486435$	$[1, -6, -2, 1]$	$3/5x^2 - 4/5x - 3/5$	1	0.6947	0.7965

Number:  $\xi = .8201\dots$  Equation:  $3x^3 + 2x^2 - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 2/3x + 1$	0	0.1475	0.2950
2	$x^2 - 2x + 1$	[1, -2, 1, 1]	$-x^2 - 2/3x + 1$	-1	0.1294	0.1941
3	$2x^2 + 2x - 3$	[1, 4, -3, 1]	$3/4x^2 - 1/4x - 3/4$	-1	0.1312	0.2479
4	$5x^2 + 2x - 5$	[0, 1, 2, 1]	$-x^2 - 2/3x + 1$	0	0.07995	0.1727
5	$8x^2 - 9x + 2$	[1, 5, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	1	0.02560	0.04709
6	$41x^2 + 31x - 53$	[2, 9, -1, 1]	$3x^2 - x - 1$	2	0.1755	0.3405
7	$85x^2 - 88x + 15$	[1, 10, 0, 1]	$-3/2x^2 + 1/2x$	2	0.2897	0.5684
8	$126x^2 - 57x - 38$	[0, 1, 1, 1]	$-1/4x^2 - \frac{11}{12}x + 1/4$	0	0.3979	0.5155
9	$-56x^2 - 126x + 141$	[1, -5, 1, 2]	$-x^2$	-1	0.3351	0.6556
10	$70x^2 - 183x + 103$	[0, 1, 1, 1]	$1/3 - x$	0	0.2748	0.4020
11	$197x^2 + 164x - 267$	[1, 0, -2, 1]	$3/4x^2 - 1/4x - 3/4$	1	0.2636	0.5065
12	$464x^2 + 145x - 431$	[0, 1, 2, 1]	$-x^2 - 2/3x + 1$	0	0.1746	0.3423
13	$84x^2 - 492x + 347$	[1, 2, 0, 1]	$-3/4x^2 + 1/4x - 1/4$	-1	0.1078	0.1646
14	$548x^2 - 347x - 84$	[0, 1, 1, 1]	$-x$	0	0.1097	0.1563
15	$632x^2 - 839x + 263$	[0, 1, 2, 1]	$-x^2 - 2/3x + 1$	0	0.05642	0.09397
16	$1969x^2 + 1236x - 2338$	[1, 4, -1, 1]	$3/2x^2 - 1/2x - 1/2$	-1	0.04330	0.08610
17	$8753x^2 - 7009x - 139$	[2, 9, 1, 1]	$1 + x - 3x^2$	-2	0.1199	0.1969
18	$13338x^2 - 23504x + 10305$	[1, -9, 5, 2]	$-3/2x^2 - x + 3/2$	-1	0.2846	0.4309
19	$32396x^2 - 10305x - 13338$	[1, 5, -1, 1]	$-x$	-1	0.4433	0.5634
20	$-42701x^2 - 9903x + 36842$	[1, 1, -2, 1]	$x - 1/3$	-1	0.3750	0.6742
21	$3033x^2 - 43712x + 33809$	[1, 1, 1, 1]	$3/4x^2 - 1/4x + 1/4$	-1	0.2159	0.3461
22	$45734x^2 - 33809x - 3033$	[0, -1, 1, 1]	$-x$	0	0.1938	0.3006
23	$48767x^2 - 77521x + 30776$	[0, -1, 2, 1]	$-x^2 - 2/3x + 1$	0	0.1221	0.1897
24	$69031x^2 + 87022x - 117798$	[1, -1, -2, 1]	$3/4x^2 - 1/4x - 3/4$	1	0.1271	0.2401
25	$186829x^2 + 96523x - 204820$	[0, 1, 2, 1]	$-x^2 - 2/3x + 1$	0	0.08426	0.1731
26	$358600x^2 - 334392x + 33049$	[1, 5, 1, 1]	$-3/2x^2 + 1/2x + 1/2$	-1	0.02553	0.04794
27	$1460923x^2 + 1377143x - 2112025$	[2, 9, -1, 1]	$3x^2 - x - 1$	-2	0.1750	0.3332
28	$3772829x^2 - 3247397x + 125670$	[1, 10, 0, 1]	$-3/2x^2 + 1/2x$	-2	0.3344	0.5826
29	$5233752x^2 - 1870254x - 1986355$	[0, 1, 1, 1]	$-1/4x^2 - \frac{11}{12}x + 1/4$	0	0.4312	0.5483
30	$-1586593x^2 - 5233752x + 5359422$	[1, -5, 1, 2]	$-x^2$	1	0.3041	0.6207
31	$3647159x^2 - 7104006x + 3373067$	[0, 1, 1, 1]	$1/3 - x$	0	0.2601	0.3873
32	$6946015x^2 + 7220107x - 10593174$	[1, 0, -2, 1]	$3/4x^2 - 1/4x - 3/4$	-1	0.2606	0.4937
33	$-17539189x^2 - 7336208x + 17813281$	[0, -1, -2, 1]	$x^2 + 2/3x - 1$	0	0.1616	0.3457
34	$5707725x^2 - 19441764x + 12105556$	[1, 2, 0, 1]	$3/4x^2 - 1/4x + 1/4$	-1	0.1058	0.1559
35	$23246914x^2 - 12105556x - 5707725$	[0, -1, 1, 1]	$-x$	0	0.1240	0.1651
36	$28954639x^2 - 31547320x + 6397831$	[0, -1, 2, 1]	$-x^2 - 2/3x + 1$	0	0.05010	0.09436
37	$71395046x^2 + 56006703x - 93951854$	[1, -4, -1, 1]	$3/2x^2 - 1/2x - 1/2$	1	0.04391	0.08487
38	$378480625x^2 - 252130289x - 47786825$	[2, 9, 1, 1]	$1 + x - 3x^2$	2	0.1409	0.2056
39	$639401175x^2 - 898129546x + 306515196$	[1, -9, 5, 2]	$-3/2x^2 - x + 3/2$	1	0.2610	0.4236
40	$1324396996x^2 - 306515196x - 639401175$	[1, 5, -1, 1]	$-x$	1	0.4654	0.5988

41	$-1630912192x^2 - 537229443x + 1537530721$	$[1, 1, -2, 1]$	$x - 1/3$	1	0.3435
42	$332885979x^2 - 1741874185x + 1204644742$	$[1, 1, 1, 1]$	$3/4x^2 - 1/4x + 1/4$	1	0.2153
43	$1963798171x^2 - 1204644742x - 332885979$	$[0, -1, 1, 1]$	$-x$	0	0.2244
44	$2296684150x^2 - 2946518927x + 871758763$	$[0, -1, 2, 1]$	$-x^2 - 2/3x + 1$	0	0.1108
45	$2289537230x^2 + 3714462617x - 4586221380$	$[1, -1, -2, 1]$	$3/4x^2 - 1/4x - 3/4$	-1	0.1210
46	$6875758610x^2 + 4482406307x - 8300683997$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 1$	0	0.08692
47	$15736756151x^2 - 12222776760x - 560313544$	$[1, 5, 1, 1]$	$-3/2x^2 + 1/2x + 1/2$	1	0.03088
48	$-48891209085x^2 + 82757971645x - 34987389648$	$[1, 4, -5, 1]$	$3x^2 + 2x - 3$	1	0.5619
49	$50724145799x^2 + 59993358757x - 83318285189$	$[1, 9, 2, 1]$	$-1/2x^2 + 1/6x + 1/2$	1	0.1711
50	$13903819437x^2 - 154974107162x + 117745361293$	$[1, -1, -1, 1]$	$3/2x - 1/2$	1	0.4322
51	$-164243320120x^2 + 117745361293x + 13903819437$	$[1, -2, -1, 1]$	$x$	1	0.3981
52	$36820326362x^2 + 214967465919x - 201063646482$	$[1, -1, 0, 1]$	$-3/4x^2 + 1/4x + 3/4$	1	0.3073
53	$178147139557x^2 - 272719468455x + 103841541856$	$[1, -1, 0, 1]$	$x - 1/3$	1	0.2407
54	$-237883972844x^2 - 312189570545x + 416031112401$	$[1, -2, 0, 1]$	$-3/4x^2 + 1/4x + 3/4$	1	0.2524
55	$-653915085245x^2 - 351659672635x + 728220682946$	$[0, -1, 2, 1]$	$-x^2 - 2/3x + 1$	0	0.1696
56	$-319473952752x^2 + 760406402829x - 408746730194$	$[1, -2, 0, 1]$	$-3/4x^2 + 1/4x - 1/4$	1	0.1016
57	$-973389037997x^2 + 408746730194x + 319473952752$	$[0, 1, 1, 1]$	$-x$	0	0.1366
58	$-1292862990749x^2 + 1169153133023x - 89272777442$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 1$	0	0.05284
59	$-2534070361072x^2 - 2479234663914x + 3737660574379$	$[1, 4, -1, 1]$	$3/2x^2 - 1/2x - 1/2$	1	0.04365
60	$-16116615353807x^2 + 8860636993681x + 3573153482905$	$[2, 9, 1, 1]$	$1 + x - 3x^2$	2	0.1604
61	$-29534653255068x^2 + 33892725038327x - 7931225266164$	$[1, -9, 5, 2]$	$-3/2x^2 - x + 3/2$	1	0.2334
62	$-53582493875039x^2 + 7931225266164x + 29534653255068$	$[1, 5, -1, 1]$	$-x$	1	0.4784
63	$61513719141203x^2 + 26890911499680x - 63427378293395$	$[1, 1, -2, 1]$	$x - 1/3$	1	0.3263
64	$-21603427988904x^2 + 68714861804171x - 41823950304491$	$[1, 1, 1, 1]$	$3/4x^2 - 1/4x + 1/4$	1	0.2104
65	$-83117147130107x^2 + 41823950304491x + 21603427988904$	$[0, -1, 1, 1]$	$-x$	0	0.2525
66	$-104720575119011x^2 + 110538812108662x - 20220522315587$	$[0, -1, 2, 1]$	$-x^2 - 2/3x + 1$	0	0.09796
67	$-71889357038434x^2 - 156389409841858x + 176609932157445$	$[1, -1, -2, 1]$	$3/4x^2 - 1/4x - 3/4$	-1	0.1127
68	$-248499289195879x^2 - 202240007575054x + 332999341999303$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 1$	0	0.08786
69	$-678609379763596x^2 + 438128601005943x + 97110748568414$	$[1, 5, 1, 1]$	$-3/2x^2 + 1/2x + 1/2$	1	0.03606
70	$2327160384996030x^2 - 3155992445171789x + 1023053557312587$	$[1, 4, -5, 1]$	$3x^2 + 2x - 3$	1	0.5132
71	$-1701662937076183x^2 - 2571067488865145x + 3253103193740203$	$[1, 9, 2, 1]$	$-1/2x^2 + 1/6x + 1/2$	1	0.1638
72	$-1304106827683443x^2 + 6165188535042877x - 4179046002484376$	$[1, -1, -1, 1]$	$3/2x - 1/2$	1	0.4296
73	$7034593086831839x^2 - 4179046002484376x - 1304106827683443$	$[1, -2, -1, 1]$	$x$	1	0.4587
74	$-397556109392740x^2 - 8736256023908022x + 7432149196224579$	$[1, -1, 0, 1]$	$-3/4x^2 + 1/4x + 3/4$	1	0.3187
75	$-8338699914515282x^2 + 10344234537527253x - 2874939174800933$	$[1, -1, 0, 1]$	$x - 1/3$	1	0.2175
76	$7829705305617319x^2 + 13293466045331668x - 16168405220132601$	$[1, -2, 0, 1]$	$-3/4x^2 + 1/4x + 3/4$	1	0.2395
77	$16279843719637824x^2 - 29424725098962528x + 13182027545826445$	$[1, -2, 0, 1]$	$-1/2x^2 + 7/6x - 1/2$	1	0.09557
78	$-40277954245387744x^2 + 13182027545826445x + 16279843719637824$	$[1, -2, -1, 1]$	$x$	1	0.1469
79	$-56557797965025568x^2 + 42606752644788973x + 3097816173811379$	$[0, -1, 1, 1]$	$-x^2 - 2/3x + 1$	0	0.06352
80	$87542303688979175x^2 + 107688981356838528x - 147197917827816122$	$[1, -5, -4, 1]$	$-3/2x^2 + 1/2x + 1/2$	1	0.04252

Number:  $\xi = .5282\dots$  Equation:  $3x^3 + 2x^2 - 1 = 0$ . "All" optimal polynomials.

1	$-x^2 - x + 1$	$[1, -1, -1, 1]$	$1 + x - 3x^2$	-1	0.1928	0.5785
2	$-2x^2 + x$	$[1, -2, 0, 1]$	$-3/2x^2 + 1/2x$	-1	0.1191	0.1488
3	$-2x^2 + 3x - 1$	$[1, -1, 2, 1]$	$-3x^2 - 2x + 1$	-1	0.2393	0.3723
4	$-4x^2 + 4x - 1$	$[0, 1, 1, 1]$	$-3/4x^2 - 5/4x + 3/4$	0	0.05083	0.1048
5	$x^2 - 10x + 5$	$[1, 3, -4, 1]$	$3x^2 + 2x - 1$	1	0.2838	0.3576
6	$5x^2 - 14x + 6$	$[0, -1, 1, 1]$	$-3/4x^2 - 5/4x + 3/4$	0	0.06644	0.08712
7	$-13x^2 - 31x + 20$	$[1, 4, 5, 1]$	$-3x^2 - 2x + 1$	1	0.2910	0.4633
8	$-8x^2 - 45x + 26$	$[0, 1, 1, 1]$	$-3/4x^2 - 5/4x + 3/4$	0	0.07325	0.1000
9	$86x^2 + 89x - 71$	$[1, 4, -5, 1]$	$3x^2 + 2x - 1$	-1	0.2560	0.6578
10	$111x^2 - 123x + 34$	$[1, 6, 2, 1]$	$-3/2x^2 + 1/2x - 1/2$	-1	0.3199	0.6049
11	$-94x^2 - 134x + 97$	$[1, -1, 0, 1]$	$-3/2x^2 - 1/2x + 1/2$	-1	0.06931	0.1397
12	$385x^2 + 234x - 231$	$[1, 1, -2, 1]$	$3x^2 + 2x - 1$	-1	0.5111	0.8839
13	$120x^2 - 425x + 191$	$[1, 4, 1, 1]$	$-3/2x^2 + 1/2x - 1/2$	-1	0.4076	0.5224
14	$-479x^2 - 368x + 328$	$[1, -1, 0, 1]$	$-3/2x^2 - 1/2x + 1/2$	-1	0.09451	0.1946
15	$1130x^2 - 807x + 111$	$[2, 3, 0, 1]$	$3x^2 - x$	-2	0.1624	0.2468
16	$-1942x^2 - 913x + 1024$	$[1, 6, -1, 2]$	$-3/2x^2 + 1/2x + 1/2$	-1	0.1658	0.2485
17	$-1927x^2 + 2966x - 1029$	$[1, -3, -1, 1]$	$-3x^2 + x$	-1	0.1194	0.1842
18	$1160x^2 + 6951x - 3995$	$[1, -2, 2, 1]$	$-3x^2 - 2x + 1$	-1	0.5857	0.7955
19	$-6956x^2 - 1932x + 2961$	$[1, 2, -1, 1]$	$\frac{9}{8}x^2 + 3/8x - 1/8$	-1	0.2270	0.2856
20	$-7723x^2 + 7985x - 2063$	$[1, 1, 1, 1]$	$1 + x - 3x^2$	-1	0.2067	0.4139
21	$-767x^2 + 9917x - 5024$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.1424	0.1798
22	$14305x^2 + 20732x - 14941$	$[1, -3, 1, 1]$	$-3x^2 - 2x + 1$	-1	0.5560	1.110
23	$-22795x^2 - 2830x + 7854$	$[1, 1, -1, 1]$	$\frac{9}{8}x^2 + 3/8x - 1/8$	-1	0.2601	0.2950
24	$-9257x^2 + 27819x - 12111$	$[1, 1, 1, 1]$	$1 + x - 3x^2$	-1	0.2678	0.3482
25	$13538x^2 + 30649x - 19965$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.1452	0.2351
26	$55614x^2 - 32076x + 1427$	$[1, -1, -2, 1]$	$-3/2x^2 + 1/2x - 1/2$	-1	0.3128	0.4170
27	$69152x^2 - 1427x - 18538$	$[0, 1, 1, 1]$	$-x$	0	0.2554	0.2739
28	$86971x^2 + 87690x - 70579$	$[1, 3, 1, 1]$	$3x^2 - x$	1	0.1268	0.3337
29	$106947x^2 - 122620x + 34930$	$[1, 2, -1, 1]$	$-3/2x^2 + 1/2x - 1/2$	1	0.1623	0.2988
30	$193918x^2 - 34930x - 35649$	$[0, 1, 1, 1]$	$-x$	0	0.2143	0.2285
31	$-191761x^2 - 264497x + 193199$	$[1, -3, 0, 1]$	$1 + x - 3x^2$	-1	0.2756	0.5676
32	$-385679x^2 - 229567x + 228848$	$[0, -1, 1, 1]$	$-3/2x^2 - x + 1/2$	0	0.2618	0.4467
33	$109104x^2 - 422047x + 192480$	$[1, 1, 1, 1]$	$3/2x^2 - 1/2x + 1/2$	-1	0.2051	0.2615
34	$494783x^2 - 192480x - 36368$	$[0, -1, 1, 1]$	$-x$	0	0.1489	0.1722
35	$603887x^2 - 614527x + 156112$	$[0, -1, 2, 1]$	$-3x^2 - 2x + 1$	0	0.2052	0.4166
36	$-963119x^2 - 723631x + 650895$	$[1, 2, 0, 1]$	$-9/4x^2 - 3/4x + 1/4$	1	0.3900	0.7883
37	$1098670x^2 - 807007x + 119744$	$[1, 1, 0, 1]$	$3/2x^2 - 1/2x$	1	0.07834	0.1215
38	$739438x^2 - 2145165x + 926751$	$[1, 1, 1, 1]$	$-3x^2 - 2x + 1$	1	0.2668	0.3483
39	$1838108x^2 - 2952172x + 1046495$	$[0, 1, 1, 1]$	$-3/4x^2 - 5/4x + 3/4$	0	0.06036	0.09135
40	$-1301377x^2 - 6883270x + 3998667$	$[1, -3, 4, 1]$	$-3x^2 - 2x + 1$	-1	0.2931	0.4025



41	$536731x^2 - 9835442x + 5045162$	[0, 1, 1, 1]	$-3/4x^2 - 5/4x + 3/4$	0	0.07150	0.09052
42	$14598755x^2 + 20462497x - 14880604$	[1, 4, -5, 1]	$3x^2 + 2x - 1$	1	0.2764	0.5633
43	$14062024x^2 + 30297939x - 19925766$	[0, -1, 1, 1]	$-3/4x^2 - 5/4x + 3/4$	0	0.07240	0.1193
44	$73839322x^2 + 56087447x - 50223705$	[1, 4, 5, 1]	$-3x^2 - 2x + 1$	1	0.3841	0.7835
45	$87901346x^2 + 86385386x - 70149471$	[0, 1, 1, 1]	$-3/4x^2 - 5/4x + 3/4$	0	0.06503	0.1692
46	$-293801879x^2 + 158050817x - 1515960$	[3, 18, -8, 1]	$3x^2 - x$	-3	0.2243	0.2892
47	$386251105x^2 + 225168368x - 226684328$	[1, 9, -1, 3]	$-3/2x^2 + 1/2x + 1/2$	-1	0.1340	0.2257
48	$583055878x^2 - 612935433x + 161082737$	[1, -3, -1, 1]	$-3x^2 + x$	-1	0.1042	0.2056
49	$-1452555194x^2 - 517454287x + 678537024$	[1, -3, 0, 1]	$-3/2x^2 + 1/2x + 1/2$	-1	0.2022	0.2720
50	$682863545x^2 - 2131092218x + 935100907$	[1, 3, 1, 1]	$3x^2 - x$	-1	0.1344	0.1740
51	$2122439176x^2 + 4684157577x - 3066193125$	[1, -2, -2, 1]	$3x^2 + 2x - 1$	-1	0.5799	0.9475
52	$-4940721460x^2 - 939427428x + 1874528335$	[1, -2, -1, 1]	$\frac{9}{8}x^2 + 3/8x - 1/8$	-1	0.2496	0.2946
53	$3501145829x^2 - 5875822367x + 2126765697$	[1, -1, -1, 1]	$3x^2 - x - 1$	-1	0.2441	0.3627
54	$-1439575631x^2 - 6815249795x + 4001294032$	[0, 1, 1, 1]	$-3/2x^2 - x + 1/2$	0	0.1467	0.2038
55	$13443457727x^2 + 13378262228x - 10816543827$	[1, -3, -1, 1]	$3x^2 + 2x - 1$	1	0.5097	1.345
56	$14065452294x^2 - 6128059729x - 687190066$	[1, 2, 1, 1]	$-3/8x^2 + \frac{7}{8}x + 3/8$	1	0.4088	0.4873
57	$-15505027925x^2 - 687190066x + 4688484098$	[1, 0, -1, 1]	$x$	1	0.2624	0.2869
58	$-621994567x^2 + 19506321957x - 10129353761$	[1, -1, 0, 1]	$1 + x - 3x^2$	1	0.2870	0.3647
59	$14883033358x^2 + 20193512023x - 14817837859$	[0, -1, 1, 1]	$-3/2x^2 - x + 1/2$	0	0.1374	0.2860
60	$30192474786x^2 - 24947191620x + 4753679597$	[1, -1, -1, 1]	$-3/2x^2 + 1/2x - 1/2$	1	0.2010	0.3432
61	$45075508144x^2 - 4753679597x - 10064158262$	[0, 1, 1, 1]	$-x$	0	0.2366	0.2510
62	$29144072149x^2 + 59893346003x - 39765029479$	[1, 2, 0, 1]	$3x^2 - x - 1$	-1	0.2888	0.4844
63	$74219580293x^2 + 55139666406x - 49829187741$	[0, 1, 1, 1]	$-3/2x^2 - x + 1/2$	0	0.1981	0.3966
64	$46123910781x^2 - 89594217220x + 34454550814$	[1, 1, -1, 1]	$-3/2x^2 + 1/2x - 1/2$	1	0.1889	0.2668
65	$120343491074x^2 - 34454550814x - 15374636927$	[0, 1, 1, 1]	$-x$	0	0.1800	0.1977
66	$166467401855x^2 - 124048768034x + 19079913887$	[0, 1, 2, 1]	$-3x^2 - 2x + 1$	0	0.3076	0.4825
67	$177583232735x^2 + 170172678815x - 139423404961$	[1, 2, 0, 1]	$9/4x^2 + 3/4x - 1/4$	1	0.2709	0.6866
68	$286810892929x^2 - 158503318848x + 3705276960$	[1, 1, 0, 1]	$-3/2x^2 + 1/2x$	1	0.1091	0.1424
69	$275695062049x^2 - 452724765697x + 162208595808$	[1, -1, 1, 1]	$-3x^2 - 2x + 1$	1	0.2428	0.3640
70	$562505954978x^2 - 611228084545x + 165913872768$	[0, 1, 1, 1]	$-3/4x^2 - 5/4x + 3/4$	0	0.05287	0.1015
71	$-64764336674x^2 + 1505561785059x - 777141957313$	[1, 3, -4, 1]	$3x^2 + 2x - 1$	-1	0.2865	0.3634
72	$627270291652x^2 - 2116789869604x + 943055830081$	[0, 1, -1, 1]	$3/4x^2 + 5/4x - 3/4$	0	0.06766	0.08703
73	$2201897198591x^2 + 4630171821418x - 3059845699685$	[1, 4, 5, 1]	$3x^2 + 2x - 1$	1	0.2892	0.4809
74	$1574626906939x^2 + 6746961691022x - 4002901529766$	[0, -1, 1, 1]	$-3/4x^2 - 5/4x + 3/4$	0	0.07335	0.1032
75	$-13583331496237x^2 - 13178137843615x + 10749863220788$	[1, -4, -5, 1]	$3x^2 + 2x - 1$	1	0.2656	0.6819
76	$-15517004352249x^2 + 18755666280320x - 5577528436705$	[1, 6, 2, 1]	$-3/2x^2 + 1/2x - 1/2$	1	0.3313	0.5874
77	$15157958403176x^2 + 19925099534637x - 14752764750554$	[1, -1, 0, 1]	$-3/2x^2 - 1/2x + 1/2$	1	0.06827	0.1452
78	$-59416252654838x^2 - 34272670632569x + 34677864285191$	[1, 1, -2, 1]	$3x^2 + 2x - 1$	1	0.5423	0.9074
79	$-14301423394383x^2 + 64183393786299x - 29910723153730$	[1, 4, 1, 1]	$-3/2x^2 + 1/2x - 1/2$	1	0.4141	0.5245
80	$-73717676049221x^2 + 29910723153730x + 4767141131461$	[0, 1, 1, 1]	$-x$	0	0.2885	0.3372

Number:  $\xi = .7342\dots$  Equation:  $3x^3 + 2x^2 + x - 3 = 0$ . "All" optimal polynomials.

1	$x^2 - x$	[0, -1, 1, 1]	$-x^2 - 2/3x + 2/3$	0	0.1951	0.3903
2	$-x^2 - 2x + 2$	[2, -2, -1, 1]	$-x^2 + 1/3x + 1/3$	-2	0.03041	0.06843
3	$2x^2 - 11x + 7$	[3, 8, 7, 2]	$2 - 3x$	-3	0.1865	0.2682
4	$10x^2 + 9x - 12$	[1, -25, 2, 3]	$3/5x^2 - 1/5x - 3/5$	-1	0.09398	0.2121
5	$-22x^2 - 7x + 17$	[0, -1, -2, 1]	$x^2 + 2/3x - 2/3$	0	0.1143	0.1942
6	$54x^2 + 23x - 46$	[0, 2, 5, 1]	$x^2 + 5/3x - 1$	0	0.5255	1.002
7	$9x^2 - 57x + 37$	[1, 5, 0, 1]	$-3/5x^2 + 1/5x - 2/5$	1	0.3376	0.4883
8	$63x^2 - 34x - 9$	[0, 1, 1, 1]	$-x$	0	0.3028	0.3972
9	$-76x^2 - 30x + 63$	[1, -1, 0, 1]	$x$	-1	0.3236	0.5963
10	$72x^2 - 91x + 28$	[1, 1, 0, 1]	$2/3x^2 - 5/9x - 4/9$	-1	0.2287	0.3935
11	$139x^2 - 4x - 72$	[1, -1, 0, 1]	$-x$	-1	0.3917	0.4972
12	$-143x^2 - 117x + 163$	[1, 1, -1, 1]	$x - 1/3$	-1	0.2160	0.4935
13	$211x^2 - 95x - 44$	[1, 1, 0, 1]	$3/7x^2 - 4/7x - 5/7$	-1	0.3267	0.4072
14	$68x^2 - 212x + 119$	[0, 1, 1, 1]	$-2/3x^2 - 1/9x + 1/3$	0	0.03551	0.05035
15	$908x^2 - 713x + 34$	[1, 2, 5, 1]	$2 - 3x$	1	0.1321	0.2137
16	$-993x^2 - 577x + 959$	[1, 9, -2, 1]	$-3/5x^2 + 1/5x - 2/5$	1	0.09107	0.2068
17	$-85x^2 - 1290x + 993$	[0, 1, 1, 1]	$-x$	0	0.1128	0.1802
18	$-1078x^2 - 1867x + 1952$	[0, 1, 2, 1]	$-x^2 - 2/3x + 2/3$	0	0.09352	0.2076
19	$4608x^2 - 3777x + 289$	[1, 5, 0, 1]	$x^2 - 4/3x$	1	0.2293	0.3842
20	$-6849x^2 - 1247x + 4608$	[1, 2, -1, 1]	$x$	1	0.3719	0.5525
21	$-3319x^2 - 6891x + 6849$	[1, 1, 1, 1]	$-x$	1	0.2764	0.6136
22	$8138x^2 - 9421x + 2530$	[1, -1, 1, 1]	$2/3x^2 - 5/9x + 5/9$	1	0.2619	0.4763
23	$-10168x^2 - 8138x + 11457$	[1, 1, 0, 1]	$-\frac{9}{11}x^2 - 3/11$	1	0.2765	0.6339
24	$-2030x^2 - 17559x + 13987$	[0, 1, 1, 1]	$1/3 - x$	0	0.2604	0.4291
25	$-19595x^2 + 11951x + 1789$	[1, -2, 0, 1]	$-3/7x^2 + 4/7x - 2/7$	-1	0.03152	0.04351
26	$-50081x^2 - 92120x + 94638$	[2, 5, 1, 1]	$3x^2 - x$	-2	0.6493	1.446
27	$-83747x^2 + 103011x - 30486$	[1, 11, -1, 2]	$-3/7x^2 + 4/7x - 2/7$	-1	0.07477	0.1307
28	$-53261x^2 + 207082x - 123335$	[1, -1, 1, 1]	$-x^2 - 2/3x + 2/3$	-1	0.1094	0.1554
29	$-190269x^2 + 517175x - 277156$	[0, 1, 2, 1]	$-x^2 - 5/3x + 1$	0	0.5204	0.7403
30	$-400491x^2 - 510524x + 590760$	[1, 8, -6, 1]	$3/5x^2 - 1/5x - 3/5$	1	0.2875	0.6343
31	$-243530x^2 + 724257x - 400491$	[1, 1, 0, 1]	$x$	1	0.3173	0.4501
32	$-834290x^2 + 730908x - 86887$	[1, 1, 1, 1]	$-1/3x^2 - \frac{11}{9}x + 2/9$	1	0.3599	0.6400
33	$-991251x^2 - 503873x + 904364$	[1, -1, 1, 1]	$3/5x^2 - 1/5x + 2/5$	1	0.2929	0.6125
34	$-156961x^2 - 1234781x + 991251$	[0, -1, 1, 1]	$-x$	0	0.3338	0.5542
35	$-1077820x^2 + 1455165x - 487378$	[1, 1, 0, 1]	$x - 1/3$	1	0.1858	0.3086
36	$-1148212x^2 - 1738654x + 1895615$	[1, 1, 0, 1]	$3/7x^2 - 4/7x - 5/7$	1	0.2847	0.6287
37	$-2226032x^2 - 283489x + 1408237$	[0, 1, 1, 1]	$-2/3x^2 - 1/9x + 1/3$	0	0.04227	0.05987
38	$-8053661x^2 - 7017721x + 9494570$	[1, 2, 5, 1]	$2 - 3x$	-1	0.1559	0.3532
39	$-5075178x^2 + 9745387x - 4419392$	[1, 9, -2, 1]	$-3/5x^2 + 1/5x - 2/5$	-1	0.09470	0.1399
40	$-13128839x^2 + 2727666x + 5075178$	[0, 1, 1, 1]	$-x$	0	0.1262	0.1505

41	$-18204017x^2 + 12473053x + 655786$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 2/3$	0	0.08782	0.1292
42	$-42494337x^2 - 35372094x + 48881087$	$[1, 5, 0, 1]$	$x^2 - 4/3x$	-1	0.2785	0.6349
43	$-7042536x^2 + 63045866x - 42494337$	$[1, 2, -1, 1]$	$x$	-1	0.3402	0.4990
44	$-67740890x^2 + 40146825x + 7042536$	$[1, 1, 1, 1]$	$-x$	-1	0.2884	0.3928
45	$-35451801x^2 - 98417960x + 91375424$	$[1, -1, 0, 1]$	$2/3x^2 - 5/9x - 4/9$	-1	0.3001	0.5977
46	$-74783426x^2 + 103192691x - 35451801$	$[1, 1, 0, 1]$	$x$	-1	0.2422	0.3980
47	$-177976117x^2 + 44921556x + 62966159$	$[1, 1, 1, 1]$	$1/3 - x$	-1	0.2889	0.3434
48	$-138644492x^2 - 156689095x + 189793384$	$[1, -1, 1, 1]$	$3/7x^2 - 4/7x + 2/7$	-1	0.03193	0.07073
49	$-900802945x^2 + 587682257x + 54133809$	$[2, 5, -1, 1]$	$-3x^2 + x$	-2	0.6351	0.9078
50	$84510683x^2 + 1021402834x - 795520244$	$[1, -9, 1, 2]$	$-5/7x^2 - 1/21x + \frac{4}{21}$	-1	0.1875	0.3025
51	$-1039447437x^2 + 430993162x + 243927193$	$[1, 1, 0, 1]$	$3/5x^2 - 1/5x + 2/5$	-1	0.1119	0.1374
52	$-1123958120x^2 - 590409672x + 1039447437$	$[0, -1, 1, 1]$	$-x$	0	0.09611	0.2048
53	$-2163405557x^2 - 159416510x + 1283374630$	$[0, -1, 2, 1]$	$-x^2 - 2/3x + 2/3$	0	0.1289	0.1749
54	$-4889571327x^2 + 4354460573x - 561197907$	$[1, 2, 4, 1]$	$-2x^2 - 1/3x + 1$	1	0.2126	0.3841
55	$-7614174791x^2 - 1068659202x + 4889571327$	$[1, 3, 0, 1]$	$-x$	1	0.3786	0.5421
56	$8175372698x^2 + 6332362467x - 9056965931$	$[1, 1, -2, 1]$	$1/3x^2 + \frac{11}{9}x - 2/9$	1	0.4579	1.055
57	$-4328373420x^2 + 9618163838x - 4728592511$	$[1, 1, 1, 1]$	$3/5x^2 - 1/5x + 2/5$	1	0.2978	0.4301
58	$-12503746118x^2 + 3285801371x + 4328373420$	$[0, -1, 1, 1]$	$-x$	0	0.3695	0.4393
59	$-15789547489x^2 - 7401021669x + 13946537258$	$[1, -1, 0, 1]$	$1/3 - x$	1	0.2362	0.4724
60	$-16832119538x^2 + 12903965209x - 400219091$	$[1, 1, 0, 1]$	$-3/7x^2 + 4/7x + 5/7$	1	0.2424	0.3849
61	$-1042572049x^2 + 20304986878x - 14346756349$	$[0, -1, 1, 1]$	$-2/3x^2 - 1/9x + 1/3$	0	0.03797	0.05703
62	$-65085248830x^2 + 82607670754x - 25565796551$	$[1, -2, 5, 1]$	$2 - 3x$	1	0.1274	0.2187
63	$103955229681x^2 + 30433505603x - 78389433130$	$[1, 9, -2, 1]$	$-3/5x^2 + 1/5x - 2/5$	1	0.1163	0.1925
64	$38869980851x^2 + 113041176357x - 103955229681$	$[0, 1, 1, 1]$	$-x$	0	0.1010	0.1984
65	$142825210532x^2 + 143474681960x - 182344662811$	$[0, 1, 2, 1]$	$-x^2 - 2/3x + 2/3$	0	0.09513	0.2124
66	$-326468816199x^2 + 433343340648x - 142175739104$	$[1, 5, 0, 1]$	$x^2 - 4/3x$	1	0.2363	0.3959
67	$467345612447x^2 + 543465222237x - 650989218114$	$[1, 3, 0, 1]$	$-x^2$	1	0.2875	0.6361
68	$140876796248x^2 + 976808562885x - 793164957218$	$[0, 1, 1, 1]$	$-1/3x^2 - \frac{11}{9}x + 2/9$	0	0.5535	0.9299
69	$-977458034313x^2 + 466696141019x + 184293077095$	$[1, 2, -1, 1]$	$3/5x^2 - 1/5x + 2/5$	-1	0.3196	0.4038
70	$-1118334830561x^2 - 510112421866x + 977458034313$	$[0, -1, 1, 1]$	$-x$	0	0.3071	0.6057
71	$-1487570456179x^2 + 1476857504275x - 282403063924$	$[1, 0, 2, 1]$	$-x^2 + 1/3x + 1/3$	-1	0.02118	0.04281
72	$-6765352160776x^2 - 7144736265067x + 8893283881362$	$[5, 7, -4, 1]$	$3x^2 - x$	-5	0.6684	1.487
73	$-5277781704597x^2 - 8621593769342x + 9175686945286$	$[0, -1, 1, 1]$	$-2/7x^2 - \frac{13}{21}x + \frac{10}{21}$	0	0.09418	0.2085
74	$5103072632944x^2 - 10934947513485x + 5277781704597$	$[1, -27, 2, 5]$	$-x$	-1	0.09821	0.1425
75	$-174709071653x^2 - 19556541282827x + 14453468649883$	$[0, 1, 1, 1]$	$-x^2 - 2/3x + 2/3$	0	0.1137	0.1758
76	$4753654489638x^2 - 50048030079139x + 34184719004363$	$[0, 2, 3, 1]$	$-x^2 - 5/3x + 1$	0	0.5681	0.8382
77	$-53217133072231x^2 + 32600167507817x + 4753654489638$	$[1, 3, -6, 1]$	$x$	-1	0.4716	0.6523
78	$-48638187654246x^2 - 37004403854149x + 53391842143884$	$[1, 1, 1, 1]$	$3/5x^2 - 1/5x + 2/5$	-1	0.2737	0.6323
79	$4578945417985x^2 - 69604571361966x + 48638187654246$	$[0, -1, 1, 1]$	$-x$	0	0.3416	0.5098
80	$57970787561869x^2 - 82648197586956x + 29431064514725$	$[1, -1, 0, 1]$	$-1/3x^2 - \frac{11}{9}x + 2/9$	-1	0.4117	0.6664

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