

Showing that the limit, as  $x$  approaches infinity, of  $\arctan(x)$  is  $\pi/2$ .

Powers of 2

x	$\arctan(x)$	
1	0.7853982	0.78539816 = $\pi / 4$
2	1.1071487	
4	1.3258177	
8	1.4464413	
16	1.5083775	
32	1.5395565	
64	1.5551726	3.14159265 = $\pi$
128	1.5629840	
256	1.5668901	1.57079633 = $\pi / 2$
512	1.5688432	
1024	1.5698198	0.78539816 = $\pi / 4$
2048	1.5703080	
4096	1.5705522	
8192	1.5706743	
16384	1.5707353	
32768	1.5707658	
65536	1.5707811	
131072	1.5707887	
262144	1.5707925	

$$1.5707963 = \pi / 2$$