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M362K (57055), Homework #5  
Instructor: Ravi Srinivasan

Due: 12pm, Wednesday, Mar. 03

Note: Please include your name and UT EID on the front page. To get credit, please show your work and not only your final answer. Please keep answers organized in the same order the problems have been assigned.

Complete the following problems from ``Probability,`` by Jim Pitman:

--Random variables (cont'd)--

\* pp. 160-161, #12,20

[Note: For #20, let  $X$  and  $Y$  be independent, Bernoulli( $1/2$ ) r.v.'s, and define a new r.v.  $Z$  that is  $0$  if  $X$  and  $Y$  are equal, and  $1$  if they are not. Are  $X, Y, Z$  pairwise independent? Are they independent? This is, in fact, an example we already discussed in lecture when introducing independence of events, now restated in terms of random variables.]

--Expectation--

\* pp. 182-184, #2,4,6,8,10,14,16,18,21

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