COMP406, Simulation and Modeling
HW-2 Spring 2015

1. Suppose that two balanced dice are rolled, and let X denote the absolute value of the difference between the two numbers that appear. Determine the probability mass function (pmf) of X

2. If an integer between 1 and 100 is to be chosen at random, what is the expected value?

3. Show that for every random variable X, $Var(X) = E(X)^2 - [E(X)]^2$

4. Suppose that a fair coin is tossed repeatedly until a head is obtained for the first time. What is the expected number of tosses that will be required?