Homework 2

a. Suppose that a die (6 sided) is rolled twice and the average of the two rolls is assigned to a random variable Z. What are the expected value and variance of Z ? Assume that the two rolls are independent.

b. If random variables X and Y implies they are uncorrelated. The reverse, however, is not generally true. Consider two random variables (discrete) with the following joint density:



1) Are X and Y independent?

*Hint: You will need to calculate the marginal densities p(x) and p(y). Remember that *

2) Are X and Y uncorrelated?