Math 30530, Probability

Quiz 5, Friday April 12

Name:

A bag has three balls, numbered "1", "2" and "3". I draw twice from the bag, *without replacement*, and note the two numbers that I see. Let X be the smaller of the two numbers, and Y the larger.

1. In the table below, fill out the values of the joint mass function of X and Y.

		Y		
		1	2	3
	1			
X	2			
	3			

2. Write down the marginal densities of X and Y.

3. Are X and Y independent? Briefly say why or why not.

4. What is the expected value of XY?

5. Compute $\mathrm{Cov}(X, Y)$, and give a very brief interpretation of your answer.