Discrete and Continuous Random Variables Name_____

1. A problem in a test given to small children asks them to match each of three pictures of animals to the word identifying that animal. If a child assigns the three words at random to the three pictures, find the probability distribution for X, the number of correct matches. Hint: List out all the possibilities for correct and incorrect answers. Be careful on this one… You really need to think through the possibilities. It might help to list 3 animals (any 3) and then put all the possible combinations of answers with them.

2. A box contains three $1 bills, two $5 bills, one $10 bill, and one $20 bill. A bill is drawn at random. Construct a probability distribution for the amount of money drawn.

3. Ethel and Frank's game involves two rolled dice (order matters, so a 1 on the first and 2 on the second is different than a 2 on the first and a one on the second). If the sum is 2 or 12, the player wins $20. If the sum is 7, the player wins $5. What is the expected result (mean) of the game?

4. The number of coats sold per day at Bob's World is shown below, with corresponding probabilities. Find the mean and standard deviation of the distribution.

# sold (X)	8	9	10	11	12
p(x)	0.1	0.2	0.2	0.3	0.2

5. A study researched the number of televisions in a household, and the results are shown below. Find the mean and standard deviation of the distribution.

# sets (Y)	1	2	3	4
p(Y)	0.32	0.51	0.12	0.05