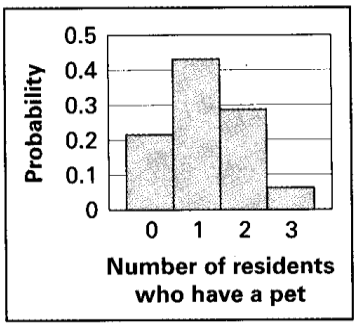
Probability Distribution and Histograms WS 2 Name_____

For the following problems create a probability distribution and calculate the expected value.

1.



2. If you have a 3/9 probability of gaining $300, a 4/9 probability of losing $100, and a 2/9 probability of breaking even. What is your expected value?

3. You are wondering what the weather is going to be like this weekend so your teacher provides you with a probability distribution for you to discover the answer. There is an 80% chance it will be sunny, 10% chance of rain, 9.99995% chance of snow and 0.00005% chance of volcanic ash.

4. In a group of 10 batteries, 3 are dead. You choose 2 batteries at random. Create a probability model for the number of good batteries you get. What is the expected number of good ones you get?

5. In a litter of seven kittens, three are female. You pick two kittens at random. Create a probability model for the number of male kittens you get. What is the expected number of male kittens?

6. You play two games against the same opponent. The probability you win the first game is 0.4. If you win the first game, the probability you also win the second is 0.2. If you lose the first game, the probability that you win the second is 0.3. Create a probability model. What is the probability you lose both games? What is the probability you win both games?