Probability Distributions and Expected Value
Worksheet

For questions 1 - 4 create a probability distribution and calculate the expected value for each.

1. Random Variable – The number of females chosen when a committee of four is randomly selected from 3 males and 4 females.

Value of R.V. (X)	Prob. Distribution P(X)	X·P(X)
$E(X) = \sum X \cdot P(X) =$		

Probability Distribution Histogram

Try to find a pattern as you solve the next three questions.

2. Random Variable – The number of wins in a 3 game tournament if a team has a 3/5 chance of winning any one game.

Value of R.V. (X)	Prob. Distribution P(X)	X·P(X)
$E(X) = \sum X \cdot P(X) =$		

Probability Distribution Histogram

3. Random Variable – The number of even rolls when an eight sided dice is rolled 6 times.
4. Random Variable – The number of blue marbles selected from a bag eight times (with replacement). The bag contains six blue marbles and eight red marbles.

Use the pattern you have found to answer this next question.

5. What is the probability that a soccer team wins two games in a five game tournament if they win 75% of their games?