MATH 140 WORKSHEET IV ½ FALL 2011 NAME:_____
(PLEASE PRINT LEGIBLY)

1. Suppose the random variable X is a binomial experiment with 5 repetitions and the probability of success is 0.5
   A. Find the probability of exactly 2 successes.
   B. Find the probability of exactly 3 successes.

2. Suppose the random variable X is a binomial experiment with 5 repetitions and the probability of success is 0.4
   A. Find the probability of exactly 2 successes.
   B. Find the probability of exactly 3 successes.

3. Suppose we have an urn with 4 red and 2 blue balls. Success is defined as drawing a red ball. Close your eyes, and draw a ball. Note the colour. Put everything back. Draw again a ball. Note the colour. Put everything back. Draw again a ball.
   A. Find the probability of exactly 0 successes.
   B. Find the probability of exactly 1 success.
   C. Find the probability of exactly 2 successes.
   D. Find the probability of exactly 3 successes.
   E. Find the probability of exactly 4 successes.

4.

Experiment 1: Suppose we have an urn with 4 red and 2 blue balls. Success is defined as drawing a red ball. Close your eyes, and draw a ball. Note the colour. Put everything back. Draw again a ball. Note the colour. Put everything back. Draw again a ball.

Experiment 2: Suppose we have another urn with 4 red and 3 blue balls. Success is defined as drawing a red ball. Close your eyes, and draw a ball. Note the colour. Put everything back. Draw again a ball. Note the colour. Put everything back. Draw again a ball.

Which experiment (average number of red balls chosen) has the highest mean?