**Review for Quiz 6**

The number of ways k objects can be selected from n objects without regard to order is

$$\binom{n}{k} = \frac{n!}{k!(n-k)!}$$

1. From 10 men and 15 women, how many ways can you select jury of size 9 that has exactly 3 women?

2. There are 20 students in a class.
   a) How many ways can you select a committee of size 3?

   b) If Jack and Jill are in the class and are willing to serve on the committee but not together, how many ways can you select a committee of size 3?

3. You play a game in which you win $1 if the percentage of heads is 60% or more. Which is better for you, 100 tosses or 1000 tosses?

4. A biased coin has probability 0.25 of *heads* when tossed. Suppose you toss this coin 100 times and when it comes up *heads* you get $4 but when it comes up *tails* you lose $1. Build a box model for the total amount you win in this game. Do you want to play this game?

5. A pair of dice is tossed 120 times and the number of *sevens* rolled is counted. Build a box model for this chance process.