1. How many different six-character license plates can be constructed using the 26 letters and 9 digits if the licenses must contain two pairs of adjacent digits (and no more digits) if repetition is not allowed?

2. In how many ways can you draw a 5-card hand containing exactly 2 sevens from a standard 52-card deck?

3. Suppose you are taking a true/false quiz with 5 problems and the probability that you will answer any given problem correctly is 0.6.
   a. We are interested in how many problems you get right. The sample space for the experiment is $S=\{0,1,2,3,4,5\}$. Compute the probability of each outcome.
   b. What is the probability that you will get at least one correct?
   c. Find the expected value of the number correct.

4. A bowl has 5 slips – 1 labeled “win” and 4 labeled “lose”. You and a friend take turns drawing a slip out of the bowl until someone draws the “win” slip. Should you draw 1st or 2nd to have the greatest probability of winning? Show all probabilities in your explanation.