1. How many ways can you arrange the letters in
   CHATTANOOGA TENNESSEE
   so that no two vowels are next to each other?

2. Roll four dice. What is the probability that a 3 is the highest
   number shown?

3. A card game has 10-card hands. What is the probability you get
   four of one denomination and at least three of another?

4. A pile of cards consists of seven hearts and five diamonds. You
   draw 5 at random.
   a) What is the probability you get at least 3 hearts?
   b) What is the probability you get at least 3 hearts if you also
      have at least 1 diamond?

5. A marksman gets bullseyes on 85% of his shots. Suppose he shoots
   until he gets 15 bullseyes. What is the probability it takes him at
   most 18 shots?

6. Urn A has 9 red balls and 1 green one. Urn B has 3 red balls and
   7 green ones.
   Flip four coins. If you get two heads, draw from Urn A. Other-
   wise, draw from Urn B.
   Then draw a second ball from the same urn without replace-
   ment.
   a) If the first ball is red, what is the probability it came from Urn
      A?
   b) If the first ball is red, what is the probability the second ball
      is red?