1. There are 10 women and 8 men working for your non-profit organization. You want to form a committee of 7 people by random selection from your employees.

   (a) What is the probability that there will be 5 women on the committee?

   (b) What is the probability that there will be no women on the committee?

   (c) What is the probability that there will be at least 2 men on the committee?

2. You have a box containing 8 different books and want to display some of them on a shelf by random selection from the box.

   (a) What is the probability that a selection of 8 books will be in alphabetical order?

   (b) What is the probability that a selection of 8 books will not be in alphabetical order?

   (c) What is the probability that a selection of 5 books will be in alphabetical order?

3. You have 15 regular playinig cards—6 are hearts and 9 are spades. If you were to randomly select 5 cards from those 15, what is the probability that:

   (a) All the cards are spades?

   (b) You get 4 hearts?

   (c) You get one or more hearts?

4. There are 7 balls in a bag with the numbers 2, 2, 3, 4, 5, 5, 6 painted on them (but the balls are otherwise identical).

   (a) What is the probability of selecting one ball with either a 2 or a 5 on it?

   (b) What are the odds in favour of the outcome in part (a)?

   (c) What is the probability that a selection of 7 balls will form a number that is larger than 4 000 000?

   (d) What is the probability that a selection of 7 balls will form an odd number?