Introduction to Probability

2. 2 dice are thrown at the same time. Find the probability that

   (a) the sum is 8.

   (b) the sum is equal to or larger than 8.

   (c) the difference is 4.

3. A box contains 40 cards with different shapes, 8 of them are squares, 14 are rectangles, 13 are circles and the rest are trapeziums. Derek takes one card randomly from the box. What is the probability that the card picked is

   (a) a square?

   (b) either a circle or a trapezium?

   (c) neither a trapezium nor a rectangle?

4. A bag contains 2 red balls (R_1 and R_2) and 3 black balls (B_1, B_2 and B_3). If two balls are drawn one by one from the bag at random with replacement, find the probability that

   (a) two balls are black.

   (b) the first ball is red and the second ball is black.

   (c) the second ball is red.