

# 1:03 | Probability

## Exercise 1:03

- 1 Using the figures shown in the table, find the probability of selecting at random a matchbox containing:

Number of matches	48	49	50	51	52
Number of boxes	3	6	10	7	4

- a 50 matches    b 48 matches    c more than 50    d at least 50
- 2 A single dice is rolled. What is the probability of getting:  
a a five?    b less than 3?    c an even number?    d less than 7?
- 3 A bag contains 3 red, 4 white and 5 blue marbles. If one is selected from the bag at random, find the probability that it is:  
a white    b red or white    c not red    d pink
- 4 A pack of cards has four suits, hearts and diamonds (both red), and spades and clubs (both black). In each suit there are 13 cards: Ace, 2, 3, 4, 5, 6, 7, 8, 9, 10, Jack, Queen and King. The Jack, Queen and King are called *court* cards. A card is drawn from a standard pack. What is the probability that the card is:  
a red?    b not red?    c a six?    d not a six?  
e a court card?    f a red Ace?    g a spade?    h a red thirteen?  
i either a red five or a ten?    j either a heart or a black Ace?  
k either a blue five or a seven?    l either a heart or a black card?
- In each of these cases, the events may not be mutually exclusive.
- m either a court card or a diamond?  
n either a number larger than two or a club?  
o either a heart or a five?  
p either a Queen or a black court card?  
q either a number between two and eight or an even-numbered heart?

■ Since there are 4 suits with 13 cards in each suit, the number of cards in a standard pack is 52. (In some games a Joker is also used.)

## Answers:

### Exercise 1:03

- 1 a  $\frac{1}{3}$     b  $\frac{1}{10}$     c  $\frac{11}{30}$     d  $\frac{7}{10}$     2 a  $\frac{1}{6}$     b  $\frac{1}{3}$     c  $\frac{1}{2}$     d 1  
3 a  $\frac{1}{3}$     b  $\frac{7}{12}$     c  $\frac{3}{4}$     d 0  
4 a  $\frac{1}{2}$     b  $\frac{1}{2}$     c  $\frac{1}{13}$     d  $\frac{12}{13}$     e  $\frac{3}{13}$     f  $\frac{1}{26}$     g  $\frac{1}{4}$     h 0    i  $\frac{3}{26}$     j  $\frac{15}{52}$     k  $\frac{1}{13}$     l  $\frac{3}{4}$     m  $\frac{11}{26}$     n  $\frac{37}{52}$     o  $\frac{4}{13}$     p  $\frac{2}{13}$     q  $\frac{23}{52}$