

Extra questions

Exercise 9.3 Theoretical probability

- 1 State if each of the spinners shown below has equal or unequal chances of each colour.

a



b



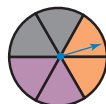
c



d



e



- 2 The marbles illustrated below are put into a bag and one is taken at random from the bag.



a What is the chance it is red?

b What is the chance it is white?

c What is the chance it is green?

d What is the chance it is blue?

- 3 State the chance of landing on red for each of the spinners shown.

a



b



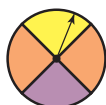
c



d



e



- 4 State the chance of landing on blue for each of the spinners in question 1.

- 5 Thirteen marbles are placed in a bag. Two are white, seven are red, one is yellow and three are green. One marble is taken from the bag. What is the chance that it is:

a white

b red

c yellow

d not white

e green

- 6 State the probability of landing on red for each of the spinners in question 1.

- 7 State the probability of each colour for the marbles in question 5.

- 8 The marbles bag shown below is closed and one marble is taken at random from the bag.

a What is the probability that it is red?

b What is the probability that it is yellow?

c What is the probability that it is green?

d What is the probability that it is blue?

e What is the probability that it is not white?

f What is the probability that it is white?



- 9 What is the probability of a twelve-sided die landing on a number less than 8?

- 10 What is the probability that the first card dealt from a normal pack of cards is a spade?

- 11 Each time a marble is taken out of the bag in question 8 it is put back before the experiment is repeated. This is done 85 times. How many times would you expect to get a green marble?

- 12 The spinners in question 3 are each spun 40 times. For each spinner, state how many times you would expect it to land on red.

Answers

- 1** **a** Unequal **b** Equal **c** Equal **d** Unequal **e** Equal
- 2** **a** 2 in 8 or 1 in 4 **b** 0 **c** 4 in 8 or 1 in 2 **d** 1 in 8
- 3** **a** 3 in 4 **b** 0 **c** 1 in 3 **d** 1 in 6 **e** 1 in 2
- 4** **a** 0 **b** 1 in 4 **c** 1 in 5 **d** 1 in 2 **e** 0
- 5** **a** 2 in 13 **b** 7 in 13 **c** 1 in 13 **d** 11 in 13 **e** 3 in 13
- 6** **a** About 0.333 **b** 0.25 **c** 0.2 **d** 0.375 **e** About 0.333
- 7** **a** About 0.154 **b** About 0.538 **c** About 0.077 **d** About 0.846 **e** About 0.231
- 8** **a** About 0.167 **b** About 0.083 **c** 0.25 **d** About 0.167
- 9** About 0.583
- 10** About 0.25
- 11** About 21
- 12** **a** 30 **b** 0 **c** About 13 **d** About 7 **e** About 20