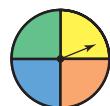
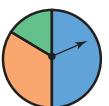


Extra questions

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 0.333 | e About 0.833 | f 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 |