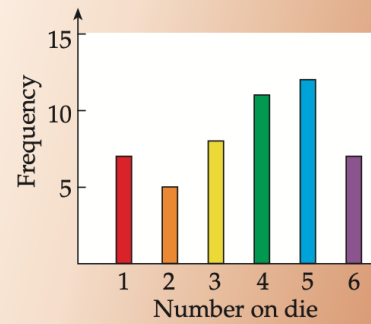


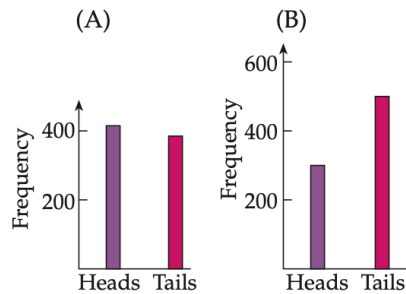
When experiments in probability are carried out the results will be close to 'ideal' ones, but with some variation, because the process is random.

For example, when a fair six-sided die is tossed you would expect each of the six numbers to occur about the same number of times, but not exactly. If the experiment is repeated the results will be different each time.

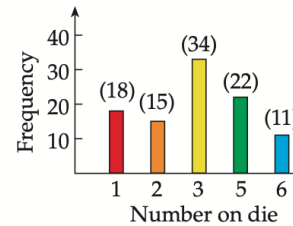


EXERCISE 33.04

1 Which of these column graphs shows the more likely result when a fair coin is tossed 800 times?



2 A fair die has been altered so that the number on one face has been replaced by one of the other five numbers. The bar graph shows the results when the die is tossed 100 times.

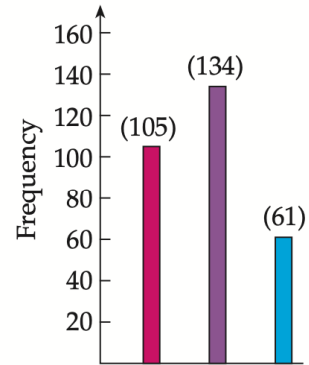
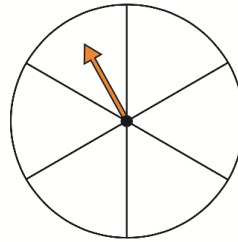


- Describe the change that has probably been made to the die.
- Draw a graph that would show what could happen when the die is tossed 1200 times.

- 3 A spinner was divided into six equal sectors. The sectors were coloured red, purple and blue. The results of 300 spins are shown alongside.

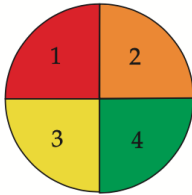
Write down the number of sectors of each colour you would expect to see on the spinner.

- a Red b Purple c Blue



- 4 The four different spinners shown below were each spun 15 times and the results recorded.

Spinner 1



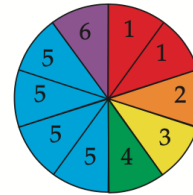
Spinner 2



Spinner 3



Spinner 4



- a Match each of the lists to the most likely spinner that was used.

- i List 1: 2, 3, 2, 2, 4, 2, 1, 3, 3, 1, 2, 4, 3, 1, 2
 ii List 2: 2, 4, 1, 1, 3, 2, 2, 1, 2, 1, 2, 4, 1, 1, 2
 iii List 3: 4, 1, 2, 5, 5, 3, 1, 3, 4, 2, 2, 3, 1, 2, 5
 iv List 4: 2, 5, 1, 5, 6, 3, 1, 5, 5, 1, 3, 2, 1, 1, 4

- b Which lists are a possible (perhaps unlikely) match to all four spinners?

- 5 Five playing cards are placed face down on a table. The cards include red and black ones. A card is chosen, its colour noted, and then it is replaced before the cards are shuffled. The process is repeated 60 times.

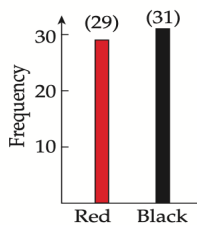


Three different possible results are shown below. In each case give the most likely number of red cards in the set of five.

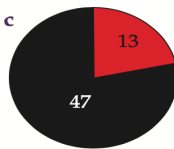
a

Colour	Frequency
Red	51
Black	9

b



c



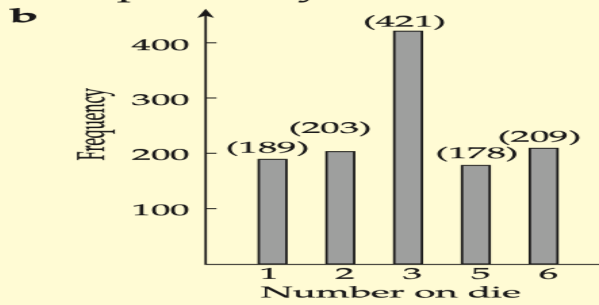
- 6 A town has two maternity hospitals – one large, and the other small. One particular day 40% of the babies born in one of these two hospitals are girls. Which hospital is more likely to be?

Answers

EXERCISE 33.04

1 (A)

2 a The number '4' on one face has been replaced by a '3'.



3 a 2 b 3 c 1

4 a **i** Spinner 1 matches List 1
ii Spinner 2 matches List 3
iii Spinner 3 matches List 2
iv Spinner 4 matches List 4

b List 1 and List 2

5 a 4 b 2 c 1

6 The small hospital.