

1 Joel spins a fair five-sided spinner numbered 2, 3, 4, 5 and 6.

(a) Write down the probability that the spinner lands on

(i) an odd number,

$\frac{2}{5}$ [1]

(ii) a prime number,

$\frac{3}{5}$ [1]

(iii) the number 7.

0 [1]

(b) Here are the results of his first 20 spins.

Number	2	3	4	5	6
Frequency	3	2	6	4	5

(i) Write down the mode.

4 [1]

(ii) Calculate the mean.

$$\begin{aligned}\bar{x} &= \frac{2 \cdot 3 + 3 \cdot 2 + 4 \cdot 6 + 5 \cdot 4 + 6 \cdot 5}{3 + 2 + 6 + 4 + 5} \\ &= \frac{6 + 6 + 24 + 20 + 30}{20} \\ &= \frac{86}{20} = 4.3\end{aligned}$$

4.3 [3]

(iii) Joel wants to draw a pie chart to show the results in the table.

(a) Show that the sector angle for the number 2 is 54° .

$$\begin{aligned}& \frac{3}{3 + 2 + 6 + 4 + 5} \times 360^\circ \\ &= \frac{3}{20} \times 360^\circ \\ &= 54^\circ\end{aligned}$$

[1]

(b) Find the sector angle for the number 6.

$$\begin{aligned}& \frac{5}{3 + 2 + 6 + 4 + 5} \times 360^\circ \\ &= \frac{5}{20} \times 360^\circ \\ &= 90^\circ\end{aligned}$$

90° [2]