

Solutions

Marking: **M1** a correct method, **A1** the correct answer.

Each answer shows the steps, then the **result**.

2.1

$$\begin{aligned} &\bullet \frac{34}{80} \\ &= \mathbf{0.425} \end{aligned}$$

2.2

$$\begin{aligned} &\bullet \frac{1}{6} \times 300 \\ &= \mathbf{50} \end{aligned}$$

2.3

$$\begin{aligned} &\bullet 0.03 \times 2000 \\ &= \mathbf{60} \end{aligned}$$

3.1

(a)

$$\begin{aligned} &\bullet \text{ each sector has probability } \frac{1}{5}, \text{ so } \frac{1}{5} \times 400 \\ &= \mathbf{80} \end{aligned}$$

(b)

$$\begin{aligned} &\bullet \frac{68}{400} \\ &= \mathbf{0.17} \end{aligned}$$

(c)

- 0.17 is below the theoretical 0.2, so it landed on 3 less often than expected
- but 400 spins is not a large number of trials and this difference could easily be chance; more spins would give a more reliable answer, so there is not enough evidence to call it biased

3.2

(a)

$$\begin{aligned} &\bullet \frac{215}{250} \\ &= \mathbf{0.86} \end{aligned}$$

(b)

$$\begin{aligned} &\bullet 0.86 \times 4000 \\ &= \mathbf{3440} \end{aligned}$$