Probability topic test

Name: _____ Date: _____

12 questions | 24 marks | 35 minutes

Find and compare probabilities, predict counts, read supplied results and explain variation.

No calculator needed.

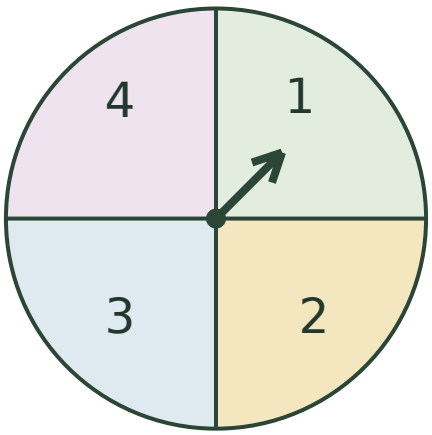
1. Write the probability of an impossible event. [1 mark]

2. A bag has 2 red and 3 blue matching tokens. Find the probability of red. [1 mark]

3. Write $\frac{3}{4}$ as a decimal and a percentage. [2 marks]

4. Which is more likely: 0.6 or 55%? [1 mark]

5. Using the equal-sector spinner, find the probability of an even number. [2 marks]



6. How many successes are expected in 80 trials when success has probability $\frac{1}{4}$?
[2 marks]

7. The four outcomes in the supplied table are equally likely. Find the expected count of A and compare it with the recorded count. [3 marks]

Supplied results for 100 fair-spinner trials

Outcome	Count
A	28
B	22
C	25
D	25

8. Find the observed percentage of B in the table. [1 mark]

Supplied results for 100 fair-spinner trials

Outcome	Count
A	28
B	22
C	25
D	25

9. A fair coin gives 32 heads in 60 tosses. Must two of these results be changed to make the experiment fair? Explain. [2 marks]

10. Experiment A gives 14 heads in 20 tosses. Experiment B gives 112 heads in 200 tosses. Which result is closer to 50%? [3 marks]

11. Does a 40% chance of success guarantee exactly four successes in the next ten trials? Explain. [2 marks]

12. Describe a simulation using equally likely random whole numbers 1 to 5 to model a bag with 2 red and 3 blue matching tokens. State the expected red count in 100 trials. [4 marks]