Repeating chance trials

6 questions | 9 marks

Equivalent correct methods earn the corresponding marks.

1. What is one trial when testing a spinner? [1 mark]

A trial is a single repeat of the experiment.

Answer: One spin with one recorded outcome.

2. You plan 12 coin tosses. Your table shows 7 heads and 5 tails. Has every toss been counted? [1 mark]

7 + 5 = 12.

Answer: The total is correct: 12.

3. You plan 20 spins, but your table totals 19. What should you do? [1 mark]

Do not invent a twentieth result.

Answer: Check the original tally for a missed or incorrectly counted trial.

4. Why replace a selected counter before the next trial when repeating an unchanged bag experiment? [1 mark]

Without replacement, the bag's contents change.

Answer: To restore the same numbers and colours of counters.

5. Does the supplied example table prove that heads will occur more often in the next 20 tosses? [2 marks]

Example results from 20 tosses of a fair coin

Outcome	Frequency
Heads	12
Tails	8

The next set of trials may have different frequencies.

A fair coin gives the same chances on each new toss.

Answer: No.

6. Plan ten trials to compare a paper coin toss with a digital coin model. State how you will record results. [3 marks]

Choose the trial count first and record every result.

Compare the totals without expecting identical frequencies.

Answer: Toss a fair coin ten times and run a fair two-outcome digital model ten times. Use a separate heads/tails tally for each.