Why chance results vary

6 practice questions

1. Tia records 6 heads and 4 tails. Ben records 5 heads and 5 tails. They each tossed 10 times. Could both records be honest? Explain.

Unequal counts can occur with a fair coin.

Answer: Yes. Both total 10, and chance counts can differ.

2. A coin lands tails four times. Is tails impossible next time?

Earlier tosses do not remove a face.

Answer: No. Tails is still possible.

3. Two die experiments each have 12 rolls. One has 4 sixes; the other has 1 six. Find the difference.

$4 - 1 = 3$.

Answer: 3 sixes.

4. Which statement recognises uncertainty: “I might get blue next” or “I must get blue next”?

Might allows more than one possible result.

Answer: “I might get blue next.”

5. A record has 9 heads and 1 tail in 10 tosses. Should it be changed to 5 and 5? Explain.

A surprising short run may happen; changing it would make the record inaccurate.

Answer: No. Keep the actual results.

6. Give possible counts for two imaginary ten-toss experiments. The head counts must differ, and each pair must total 10.

These are imagined examples, not invented records of a real experiment.

Check each pair totals 10 and the head counts differ.

Answer: For example, heads 3 and tails 7; heads 6 and tails 4. Many other pairs are valid.