Equal/unequal likelihood

6 questions | 8 marks

Equivalent correct methods earn the corresponding marks.

1. A fair coin is tossed once. Are heads and tails equally likely? [1 mark]

Each of the two faces has the same chance.

Answer: Yes.

2. A bag has 4 red and 4 blue same-sized counters. Compare red and blue. [1 mark]

Each colour has four equally likely counters.

Answer: Equally likely.

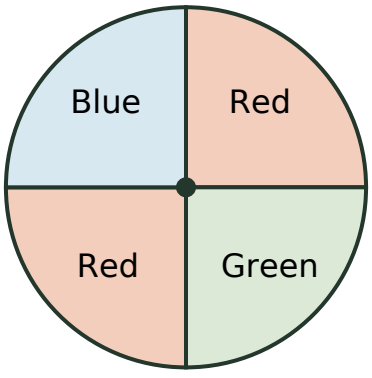
3. A bag has 5 red and 2 blue same-sized counters. Which colour is more likely? [1 mark]

There are more red counters than blue counters.

Answer: Red.

4. Which two colours have equal chances on the supplied spinner? [1 mark]

Four equal sectors



Assume each sector is equally likely.

Each has one of the four equal sectors.

Answer: Blue and green.

5. A pupil says green is impossible because it is least likely in the supplied bag. Explain the mistake. [2 marks]

Six same-sized counters in a bag; choose without looking

Colour	Number of counters
Red	3
Blue	2
Green	1

Least likely is not the same as impossible.

Answer: Green is possible because one green counter is present.

6. Design a fair spinner with four equal sectors that gives red and blue equal chances. Describe its labels. [2 marks]

Each colour then has two equally likely sectors.

Other arrangements of those labels are also valid.

Answer: Two red sectors and two blue sectors.