Two-stage sample spaces

6 questions | 13 marks

Equivalent correct methods earn the corresponding marks.

1. List the sample space for two ordered coin tosses. [2 marks]

Pair each first result with both second results.

Answer: HH,HT,TH,TT.

2. A coin then an A,B,C spinner has how many ordered outcomes? [1 mark]

2×3=6.

Answer: 6.

3. List outcomes for two ordered spinners each labelled 1,2. [2 marks]

Both stages are recorded.

Answer: (1,1),(1,2),(2,1),(2,2).

4. For a coin then a 1,2,3 spinner, list outcomes with a tail or spinner 3. [3 marks]

Include the overlapping T3 only once.

Answer: T1,T2,T3,H3.

5. How many ordered pairs can two standard dice produce? Why do (2,5) and (5,2) differ? [2 marks]

6×6=36, and die order is retained.

Answer: 36; the first-die result differs.

6. A bag holds R1,R2,B. Draw two without replacement. List the ordered physical pairs. [3 marks]

There are 3 first choices and 2 remaining choices, giving 6 pairs.

Answer: (R1,R2),(R1,B),(R2,R1),(R2,B),(B,R1),(B,R2).