



S22-10min Sample Space Diagrams: 10-minute Pack

EDEXCEL 1ST0 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / ____

Answer ALL questions. Show all your working.

- 1** A fair spinner has three equal sections numbered 1, 2 and 3. A fair coin is tossed. The spinner is spun once and the coin is tossed once, and the two results are recorded together.
- (a) List, as ordered pairs (spinner score, coin result), all the possible outcomes. (2)
- (b) Write down the probability that the spinner lands on an odd number and the coin shows heads. (2)

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(Total for Question 1 is 4 marks)

- 2 Spinner A has four equal sections numbered 1, 2, 3, 4. Spinner B has three equal sections numbered 1, 2, 3. Both spinners are spun together and the two scores are added. The sample space diagram below shows the sum of the two scores for some of the outcomes.

Sum	A: 1	A: 2	A: 3	A: 4
B: 1	2	3		5
B: 2		4	5	6
B: 3	4		6	7

(a) Complete the sample space diagram. (3)

(b) Write down the probability that the sum of the two scores is exactly 5. (2)

(c) Find the probability that the sum of the two scores is greater than 5. (2)

(Total for Question 2 is 7 marks)

Mark scheme · S22-10min Sample Space Diagrams: 10-minute Pack

Question 1

- (a) **B1** at least 4 of the 6 ordered pairs listed correctly with no repeats
- (a) **B1** all 6 ordered pairs listed: (1,H), (1,T), (2,H), (2,T), (3,H), (3,T)
- (a) **Answer: (1,H), (1,T), (2,H), (2,T), (3,H), (3,T)**
- (b) **M1** identifies the 2 favourable outcomes (1,H) and (3,H), oe
- (b) **A1** $\frac{1}{3}$ oe cao
- (b) **Answer: $\frac{1}{3}$**

Question 2

- (a) **B1** at least 1 of the 3 missing sums correct
- (a) **B1** at least 2 of the 3 missing sums correct
- (a) **B1** all 3 missing sums correct: 4 (B:1,A:3), 3 (B:2,A:1), 5 (B:3,A:2)
- (a) **Answer: 4, 3, 5**
- (b) **M1** identifies the 3 outcomes with sum 5, oe
- (b) **A1** $\frac{1}{4}$ oe cao
- (b) **Answer: $\frac{1}{4}$**
- (c) **M1** identifies the 3 outcomes with sum greater than 5 (two sums of 6, one sum of 7), oe
- (c) **A1** $\frac{1}{4}$ oe cao
- (c) **Answer: $\frac{1}{4}$**