5.7 Tree Diagrams for Independent Events: 10-minute Pack

Calculators not allowed · about 10 minutes

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 Three independent events each have probability 2/3 of happening. Find the probability that none of them happens.

(2)

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2 The probability that Chloe wins a game of chess is 0.4. Chloe plays two games. The results are independent. Work out the probability that Chloe wins both games.

(2)

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3 A 6-sided fair die is rolled once. State the probability of rolling an even number.

(1)

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4 The probability that the bus is late on each of two mornings is 0.4, independently of the other day.
Work out the probability that the bus is late on at least one of the days.

(3)

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Mark scheme · 5.7 Tree Diagrams for Independent Events: 10-minute Pack

Question 1

method: probability of not happening is 1 - 2/3 = 1/3; multiply three times: $(1/3)^3$	**M1**
1/27 cao	**A1**

Answer: **1/27**

Question 2

0.4 x 0.4	**M1**
0.16 cao	**A1**

Answer: **0.16**

Question 3

3/6 = 1/2 cao	**B1**

Answer: **1/2**

Question 4

0.6 x 0.6	**M1**
1 - P(neither)	**M1**
0.64 cao	**A1**

Answer: **0.64**

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