5.22 Probability Trees: 10-minute Pack

EDEXCEL 1MA1 · Calculator allowed · about 10 minutes

Total Marks

Name: _____ Date: ____ / ____ / _____

Answer ALL questions. Show all your working.

1 A shop sells two types of sweets: chewy and hard. On Monday, 60% of customers buy chewy sweets. If a customer buys chewy sweets, there is a 0.3 probability they also buy a drink. If a customer buys hard sweets, there is a 0.1 probability they buy a drink. Use a probability tree to find the probability that a customer buys a drink.

(Total for Question 1 is 3 marks)

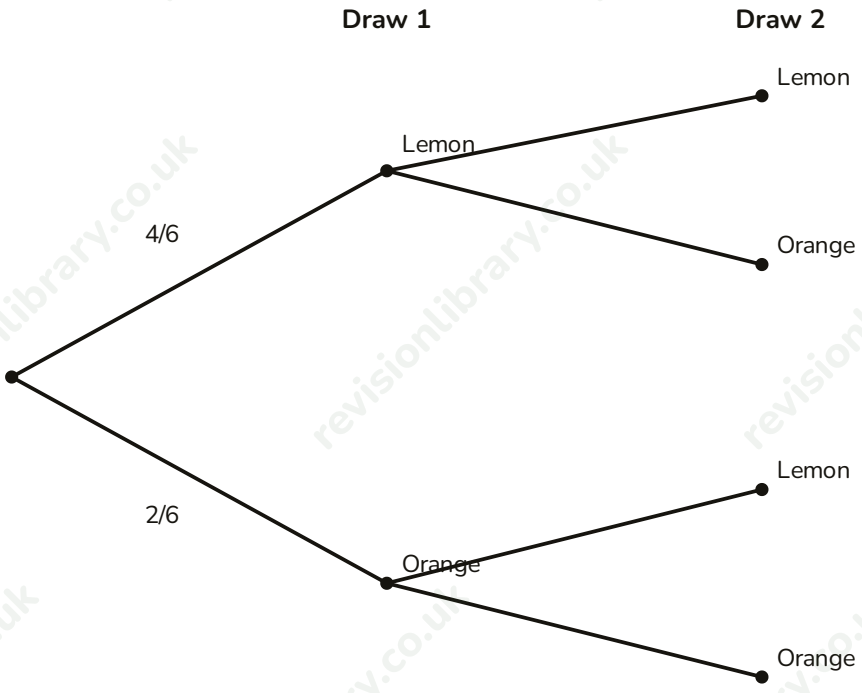
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2 A fair six-sided dice is rolled twice. Calculate the probability of getting a 6 on both rolls.

(Total for Question 2 is 2 marks)

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3 A jar contains 4 lemon sweets and 2 orange sweets only. Declan takes a sweet at random from the jar and does not replace it. He then takes a second sweet at random. The probability tree diagram shows the first draw, with all four second-stage branches left blank. Complete the tree diagram by writing the correct probability, as a fraction, on each of the four second-stage branches.



(Not to scale)

(Total for Question 3 is 2 marks)

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Mark scheme · 5.22 Probability Trees: 10-minute Pack

Question 1

tree or method shown multiplying 0.6 x 0.3 and 0.4 x 0.1	**M1**
sum of these two probabilities shown	**M1**
0.18 + 0.04 = 0.22 cao	**A1**

Answer: 0.22

Question 2

1/6 x 1/6 oe	**M1**
1/36 oe cao	**A1**

Answer: 1/36

Question 3

3/5 and 2/5 on the branches after Lemon	**B1**
4/5 and 1/5 on the branches after Orange	**B1**

Answer: After Lemon: Lemon 3/5, Orange 2/5. After Orange: Lemon 4/5, Orange 1/5

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