

Tree Diagrams

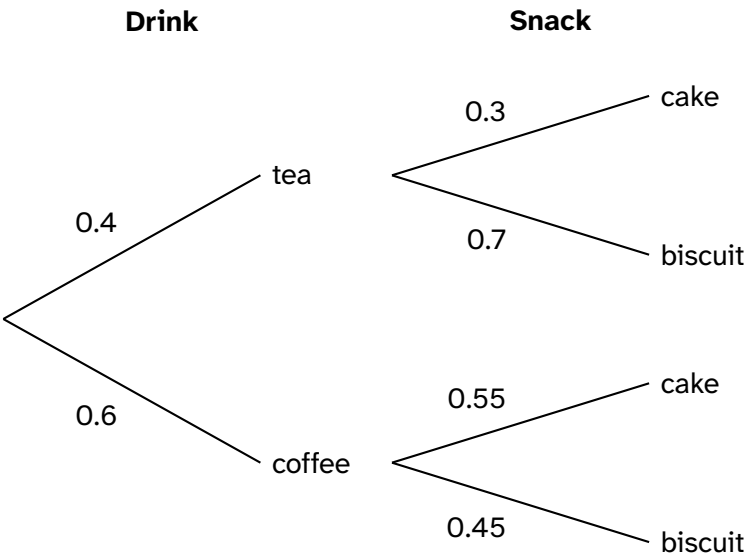
For Pearson Edexcel GCSE Mathematics (1MA1) • Foundation tier

Name _____

Total marks: **26**

Answer **all** questions in the spaces provided. Show your working: marks are given for correct method.

- 1** Tomi buys a drink and a snack at a café.
The probability tree diagram shows the probabilities of what he buys.



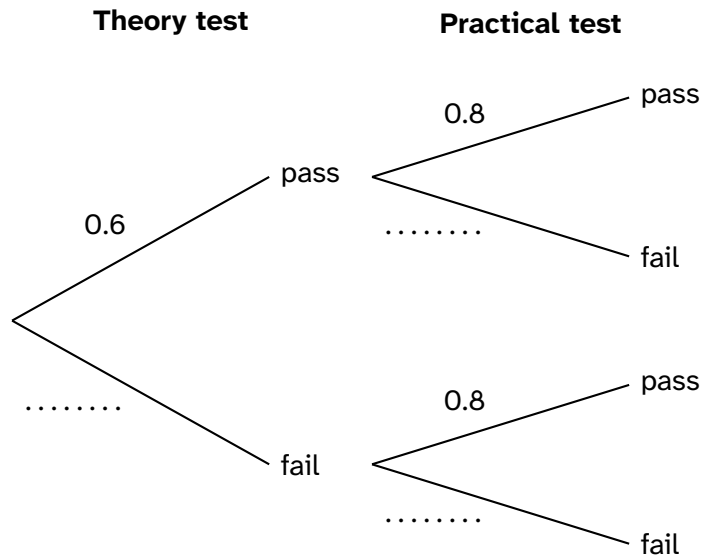
Work out the probability that Tomi buys coffee and a biscuit.

.....
(2)

(Total for Question 1 is 2 marks)

- 2** Amy takes a theory test and a practical test.
 The probability that she passes the theory test is 0.6
 The probability that she passes the practical test is 0.8
 The two tests are independent.

(a) Complete the probability tree diagram.



(2)

(b) Work out the probability that Amy passes both tests.

.....
 (2)

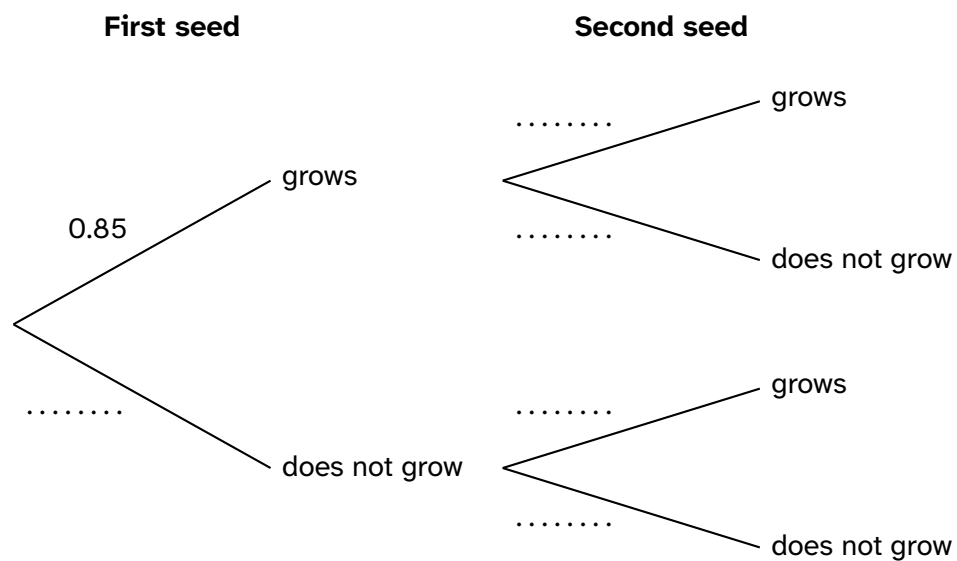
(c) Work out the probability that Amy passes exactly one of the tests.

.....
 (3)

(Total for Question 2 is 7 marks)

- 3** Rhea plants two tomato seeds.
The probability that a seed grows is 0.85
The seeds grow independently.

(a) Complete the probability tree diagram.



(2)

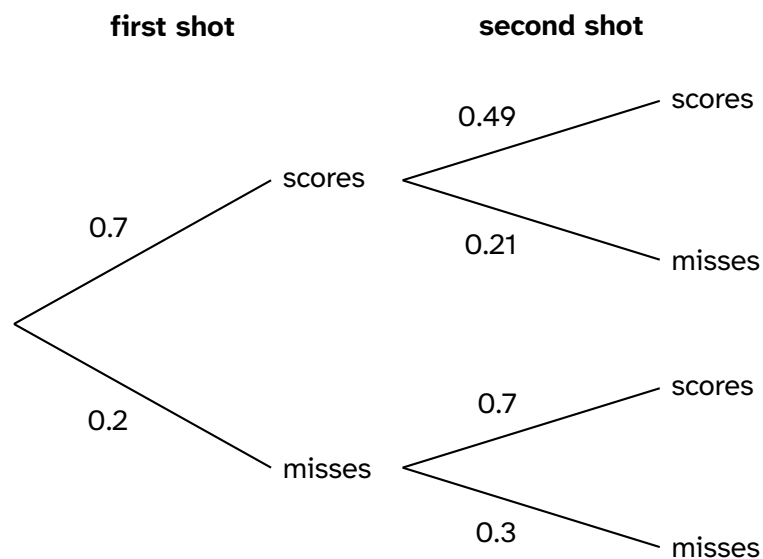
(b) Work out the probability that at least one of the seeds grows.

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(2)

(Total for Question 3 is 4 marks)

- 4 Noor plays netball.
 The probability that she scores with a shot is 0.7
 Noor takes two shots.
 Here is the tree diagram she draws to show the probabilities.



Noor has made **two** mistakes in her tree diagram.
 Describe each mistake.

(2)

(Total for Question 4 is 2 marks)

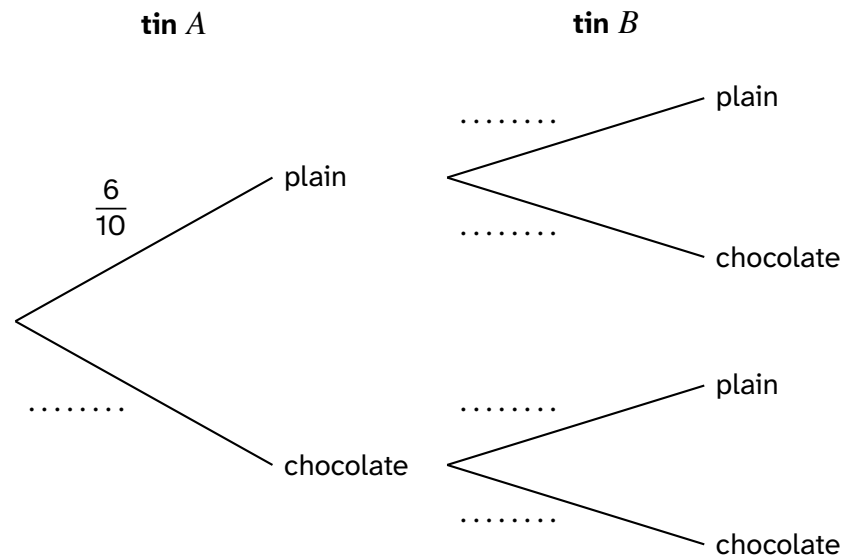
5 Ifeoma has two biscuit tins.

In tin *A* there are 6 plain biscuits and 4 chocolate biscuits.

In tin B there are 5 plain biscuits and 7 chocolate biscuits.

Ifeoma takes a biscuit at random from each tin.

(a) Complete the probability tree diagram.



(2)

(b) Work out the probability that Ifeoma takes at least one chocolate biscuit.

..... (2)

(Total for Question 5 is 4 marks)

- 6** A spinner can land on green or white.
The probability that it lands on green is 0.25
- Jack spins the spinner twice.
Work out the probability that it lands on the same colour both times.
You may draw a tree diagram to help you.

.....
(4)

(Total for Question 6 is 4 marks)

- 7** There are 4 red counters and 6 blue counters in a bag.
Sam takes at random a counter from the bag and does not replace it.
He then takes at random a second counter from the bag.
- Show that the probability that both counters are the same colour is $\frac{7}{15}$

(3)

(Total for Question 7 is 3 marks)
