

PROBABILITY TREES

Pearson Edexcel - Tuesday 6 November 2018 - Paper 1 (Non-Calculator) Foundation Tier

1.

27 Amina has two bags.

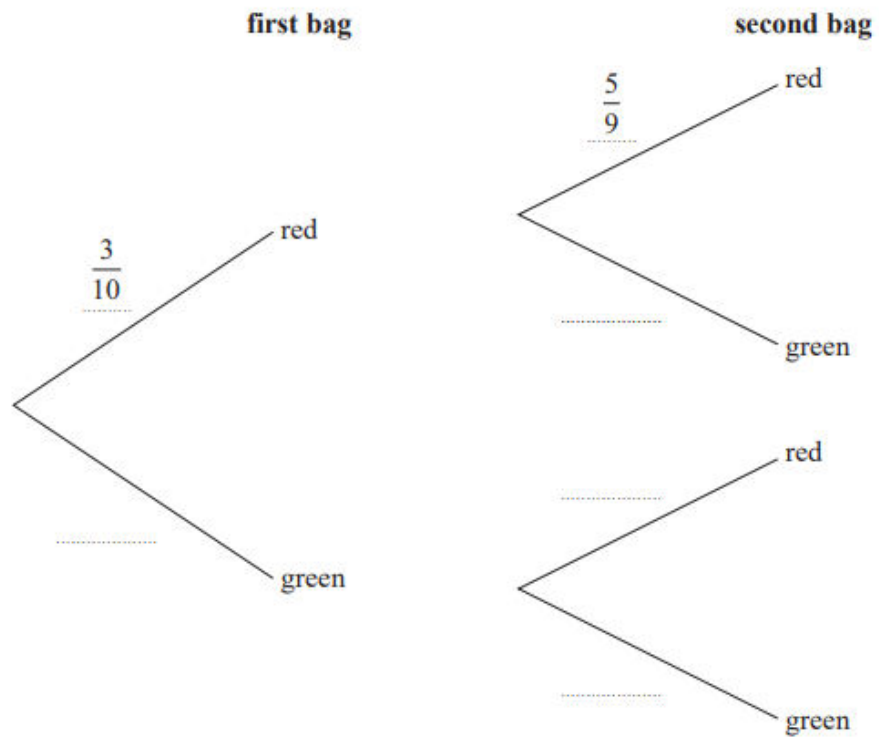
In the first bag there are 3 red balls and 7 green balls.

In the second bag there are 5 red balls and 4 green balls.

Amina takes at random a ball from the first bag.

She then takes at random a ball from the second bag.

(a) Complete the probability tree diagram.



(2)

(b) Work out the probability that Amina takes two red balls.

(2)

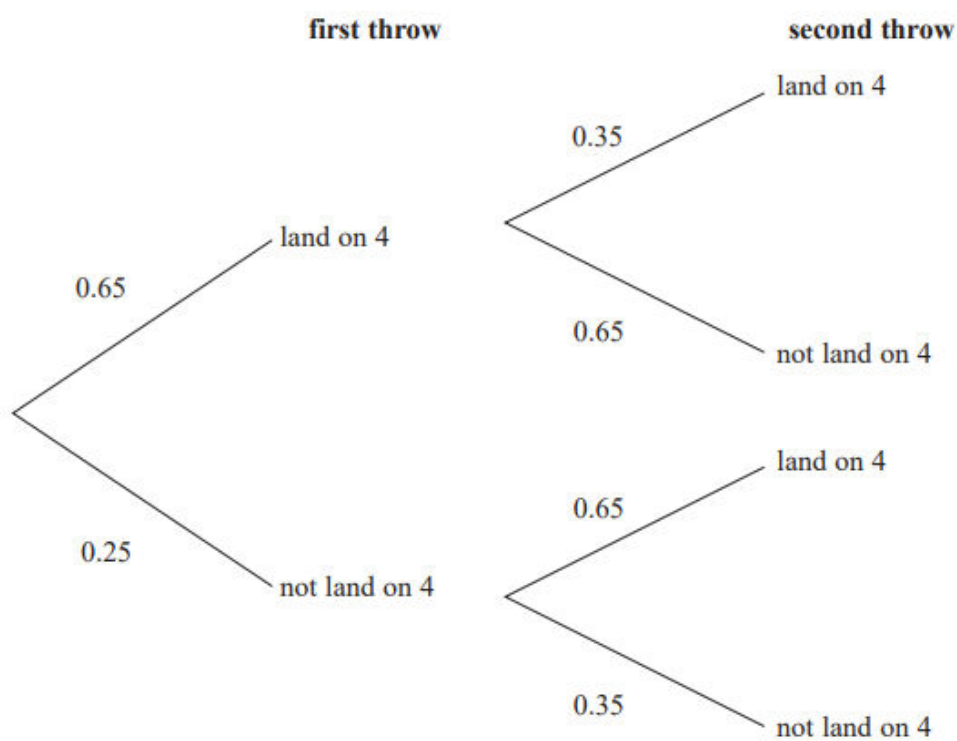
(Total for Question 27 is 4 marks)

Pearson Edexcel - Tuesday 12 June 2018 - Paper 3 (Calculator) Foundation Tier

2.

22 When a biased 6-sided dice is thrown once, the probability that it will land on 4 is 0.65
The biased dice is thrown twice.

Amir draws this probability tree diagram.
The diagram is **not** correct.



Write down **two** things that are wrong with the probability tree diagram.

1

.....

2

.....

(Total for Question 22 is 2 marks)

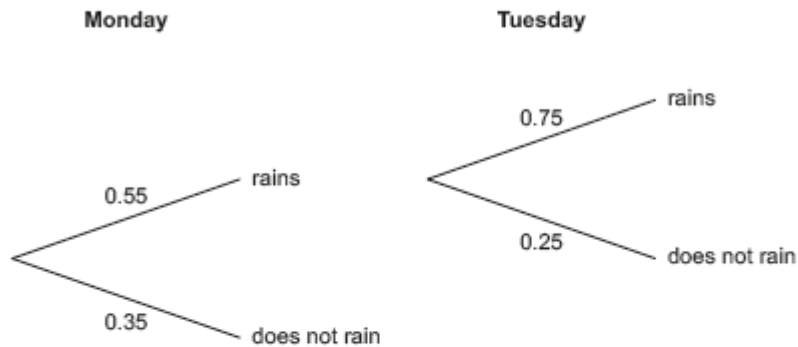
OCR Thursday 05 November 2020- Morning (Non-Calculator) Foundation Tier

3.

22 A weather forecast says

- the probability that it will rain on Monday is 0.55
- and
- the probability that it will rain on Tuesday is 0.25.

Ella draws a tree diagram to show this information.



Write down three errors that Ella has made with her tree diagram.

1

.....

2

.....

3

.....

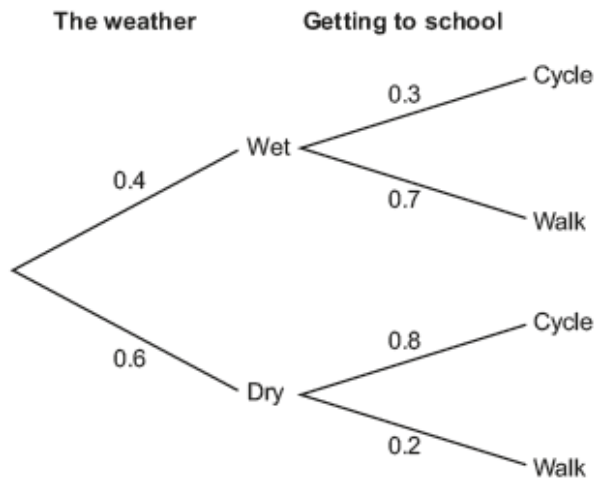
OCR November 09 November 2020- Morning (Calculator) Foundation Tier

4.

23 The probability that Adam cycles to school or walks to school depends on the weather.

- On any day, the probability that the weather is wet is 0.4.
- When the weather is wet the probability that he cycles to school is 0.3.
- When the weather is dry the probability that he cycles to school is 0.8.

The information is shown on this tree diagram.



Work out the probability that

(a) it is dry and Adam walks to school,

(a) [2]

(b) Adam cycles to school.

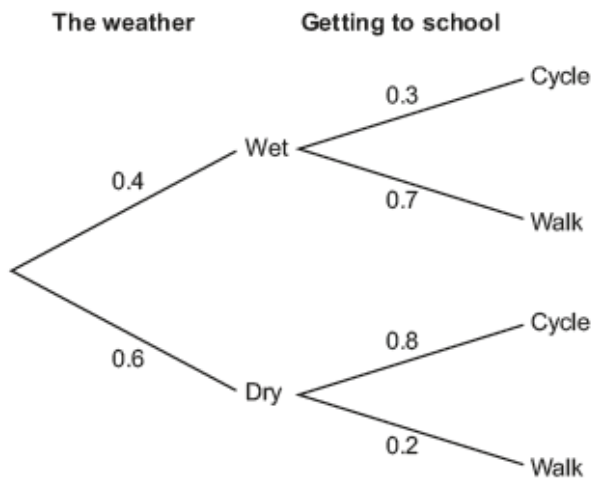
OCR Tuesday 5 November 2019 – Morning (Calculator) Foundation Tier

5.

23 The probability that Adam cycles to school or walks to school depends on the weather.

- On any day, the probability that the weather is wet is 0.4.
- When the weather is wet the probability that he cycles to school is 0.3.
- When the weather is dry the probability that he cycles to school is 0.8.

The information is shown on this tree diagram.



Work out the probability that

(a) it is dry and Adam walks to school,

(a) [2]

(b) Adam cycles to school.

OCR Monday 11 November 2019 – Afternoon (Calculator) Foundation Tier

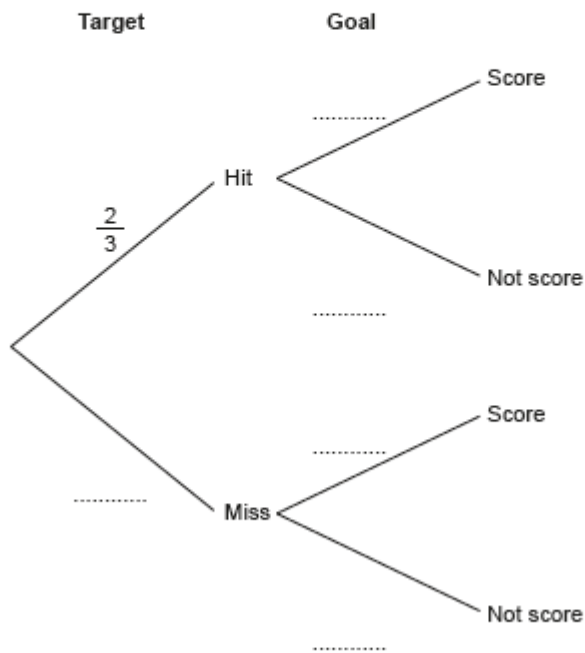
6.

15 Ryan shoots an arrow at a target. He then kicks a ball at a goal.

The probability that Ryan hits the target is $\frac{2}{3}$.

The probability that Ryan scores a goal is $\frac{3}{5}$.

(a) Complete the tree diagram.



(b) Find the probability that Ryan

(i) misses the target and does not score a goal,

(b)(i) [2]

(ii) either hits the target or scores a goal or both.

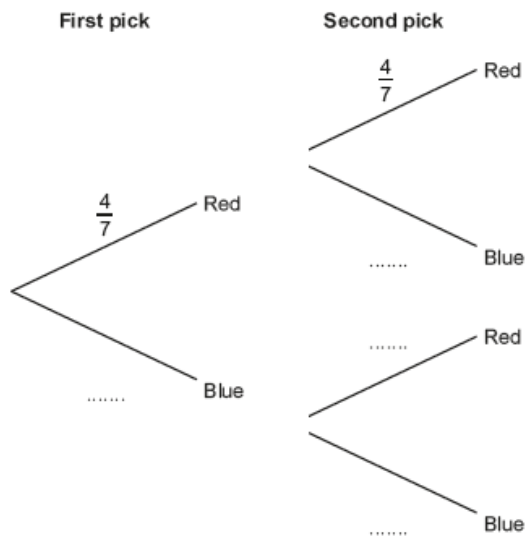
(ii) [2]

OCR Thursday 6 June 2019 – Morning (Non-Calculator) Foundation Tier

7.

- 17 A bag contains 4 red counters and 3 blue counters only.
Jack picks a counter at random and then replaces it.
Jack then picks a second counter at random.

(a) Complete the tree diagram.



[2]

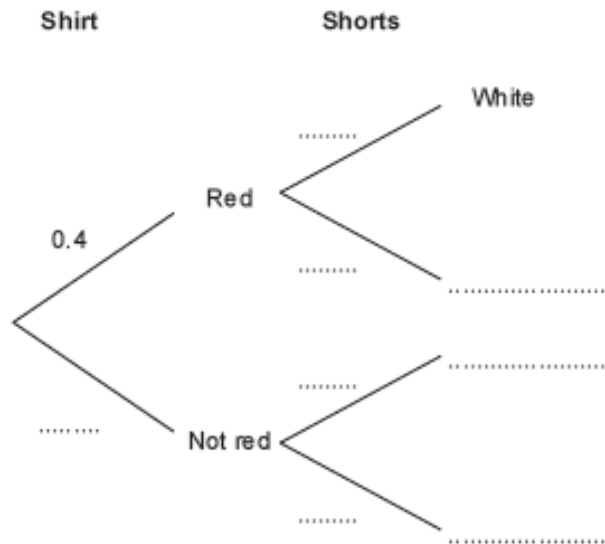
(b) Work out the probability that Jack picks two red counters.

OCR Tuesday 6 November 2018 – Morning (Calculator) Foundation Tier

8.

- 24 Romelu picks a shirt and shorts.
The probability he picks a red shirt is 0.4.
The probability he picks white shorts is 0.7.

(a) Complete the tree diagram.



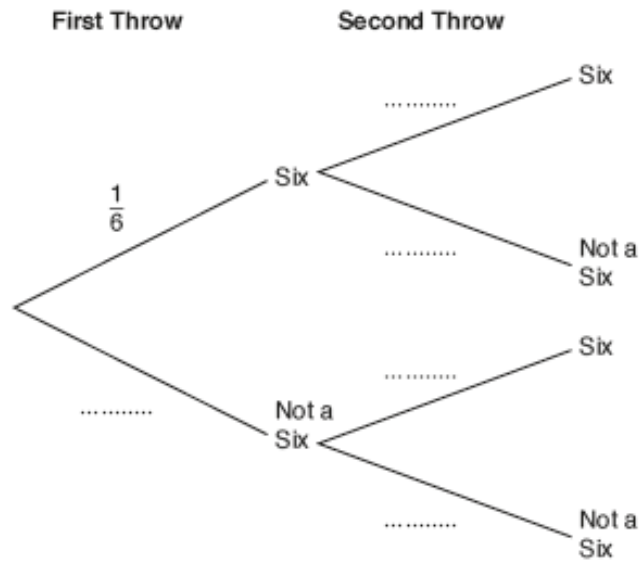
[3]

(b) Calculate the probability that Romelu picks a red shirt but does not pick white shorts.

OCR Monday 6 November 2017– Morning (Calculator) Foundation Tier

9.

- 21 (a) Noah starts to draw a tree diagram showing the outcomes of throwing a six when a fair dice is thrown twice.



(i) Complete the tree diagram. [1]

(ii) What is the probability of throwing two sixes?

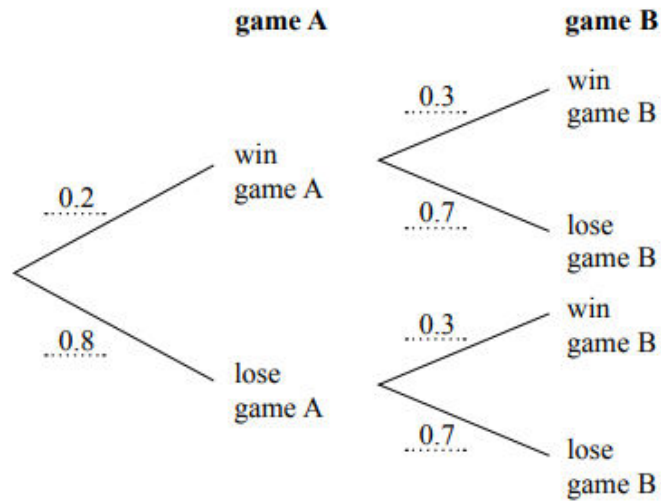
(a)(ii) [2]

(b) Cara throws the same dice three times.

Show that the probability that Cara does not throw a six until her third throw is $\frac{25}{216}$. [2]

10.

29 Here is a probability tree diagram.

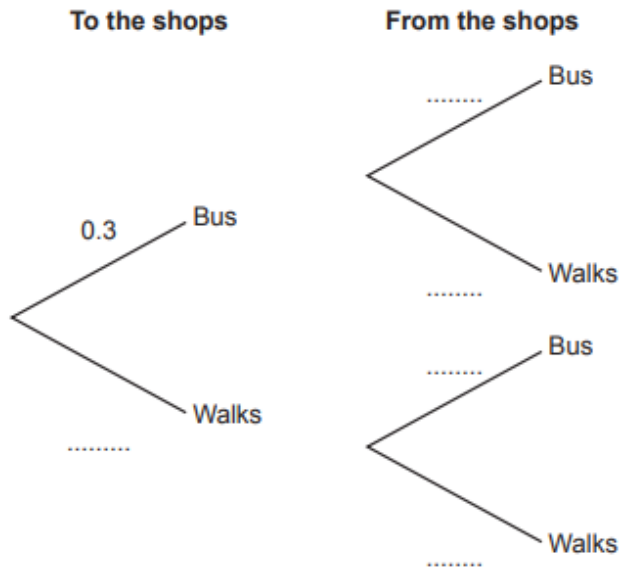


Work out the probability of winning both games.

(Total for Question 29 is 2 marks)

11.

- 19 Kirsty either travels by bus or walks when she visits the shops.
The probability that she catches the bus **to** the shops is 0.3.
The probability that she catches the bus **from** the shops is 0.8.



- (a) Complete the tree diagram. [2]
- (b) Show that the probability that Kirsty walks at least one way is 0.76.

..... [2]

AQA Tuesday 21 May 2019 – Morning (Non-Calculator) Foundation Tier

12.

21 Anna plays a game with an ordinary, fair dice.

If she rolls 1 she wins.

If she rolls 2 or 3 she loses.

If she rolls 4, 5 or 6 she rolls again.

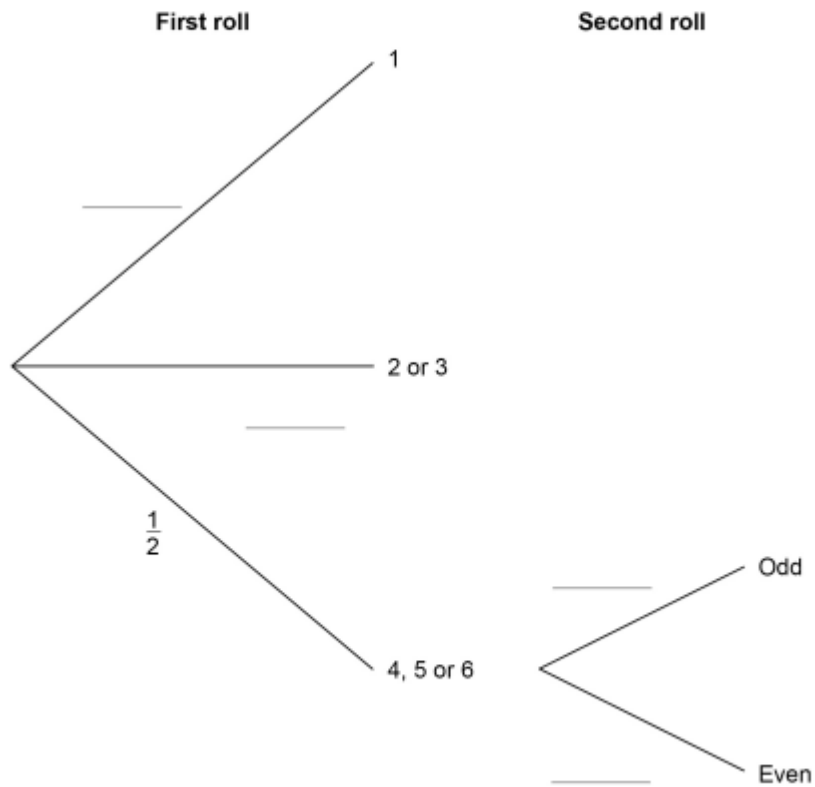
When she has to roll again,

if she rolls an odd number she wins

if she rolls an even number she loses.

21 (a) Complete the tree diagram with the four missing probabilities.

[2 marks



21 (b) Is Anna more likely to win or to lose?
You **must** work out the probability that she wins.

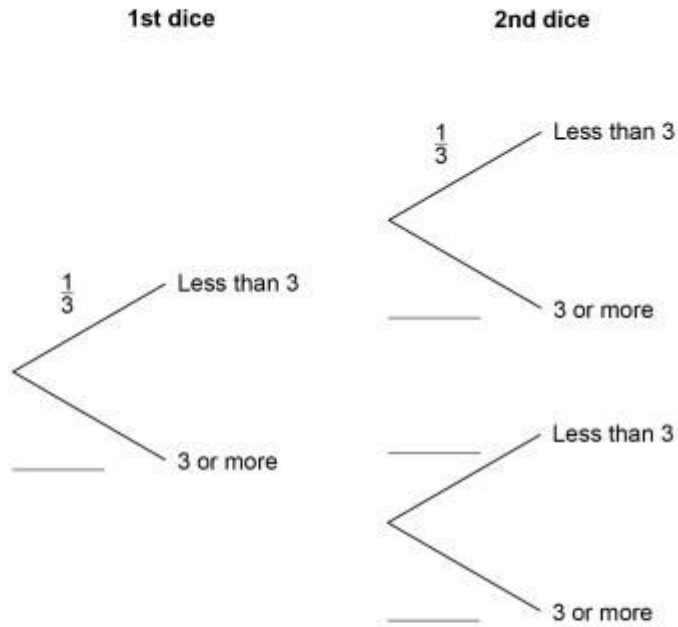
[4 marks]

13.

22 Two ordinary fair dice are rolled.

22 (a) Complete the tree diagram.

[1 mark]



22 (b) Work out the probability that **both** dice land on a number less than 3

[1 mark]

Answer _____