

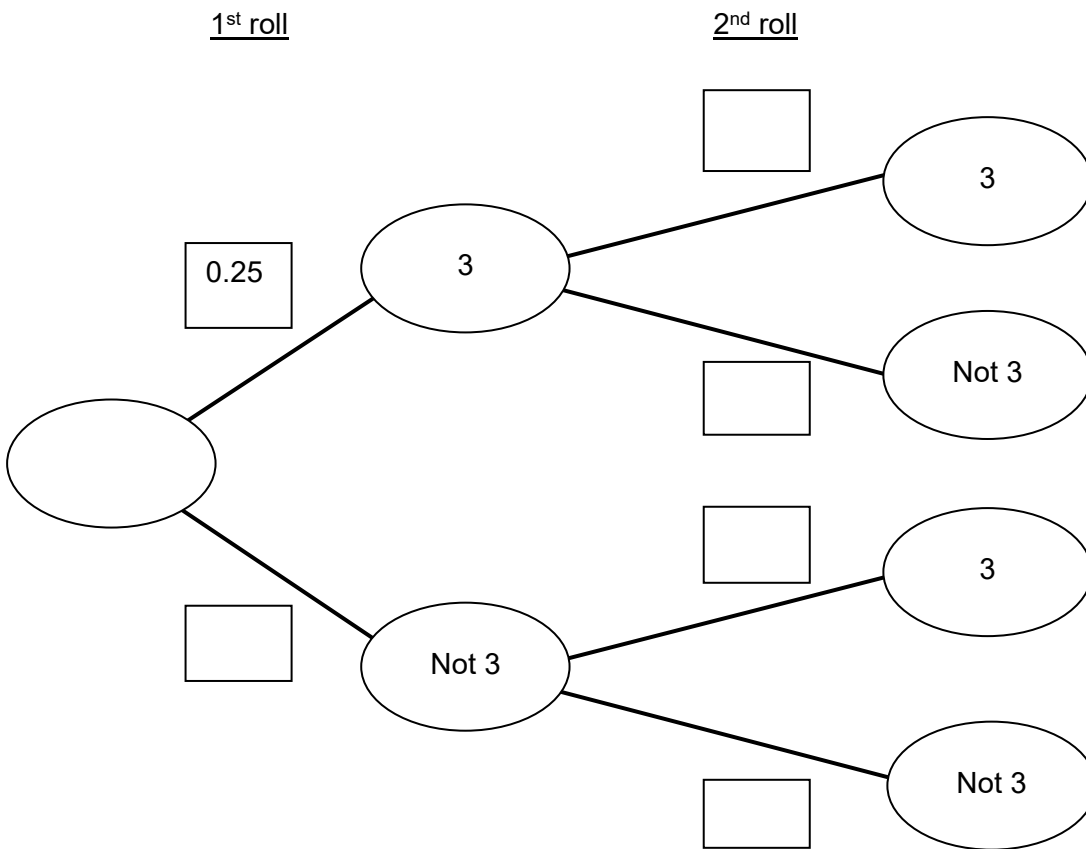
Topic test 3 (20 minutes)

Probability – Foundation (Non-calculator)

- 1 The probability that a biased dice lands on a 3 is 0.25
The dice is rolled twice.

1 (a) Complete the tree diagram.

[2 marks]



1 (b) Work out the probability that both rolls are **not** a 3.

[2 marks]

Answer _____

1 (c) Work out the probability of scoring exactly one 3

[2 marks]

Answer _____

2 A bag contains 20 balls.

The ratio of red to blue balls is 3 : 7

A ball is picked at random and replaced.

The bag is shaken and then a second ball is picked at random.

2 (a) Work out the probability that **two** red balls are picked.

[3 marks]

Answer _____

2 (b) Work out the probability that the balls picked are different colours.

[2 marks]

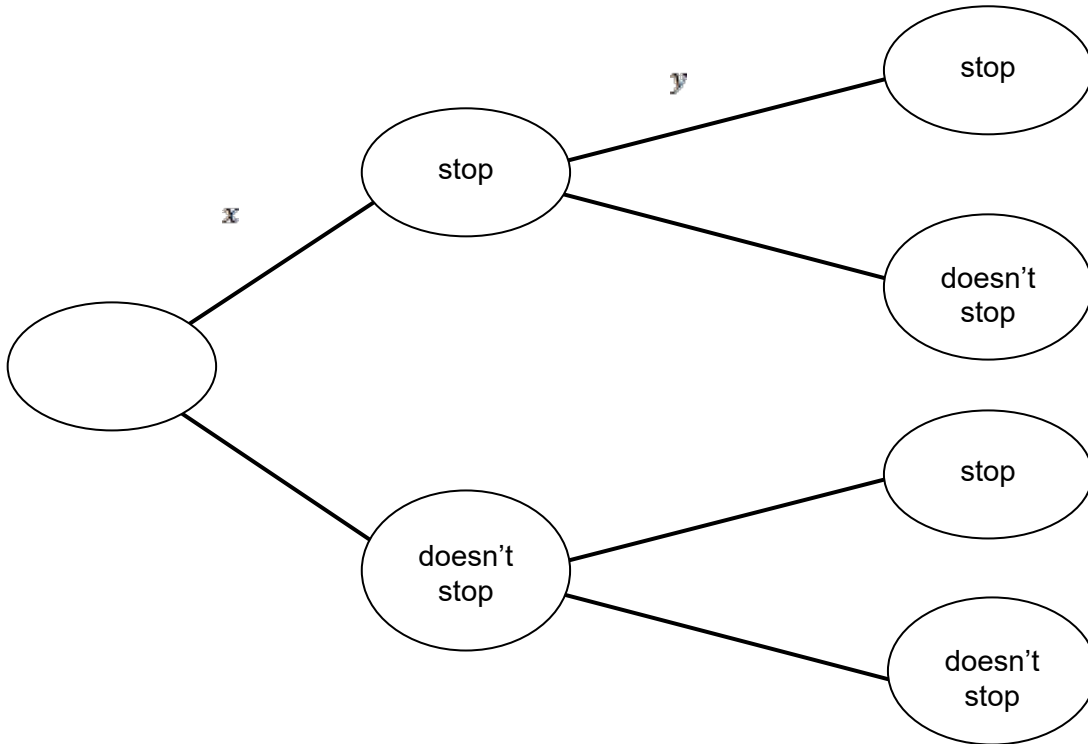
Answer _____

2 (c) How would the probability of red for the second ball change if the first ball was not replaced?

[1 mark]

3 A car passes through two sets of traffic lights each day.

The driver records whether he has to stop at the lights over a long period of time and produces the following tree diagram.



3 (a) Tick the expression for the probability that the driver does not stop at the first set of lights. [1 mark]

$1 + x$

$x - 1$

$1 - x$

$\frac{1}{2}x$

3 (b) Work out an expression for the probability that the driver does **not** stop at the first set of lights but stops on the second set?

[1 mark]

Answer _____

3 (c) Work out an expression for the probability that the driver stops on at least one set of lights?

Simplify your answer.

[3 marks]

Answer _____

END OF QUESTIONS