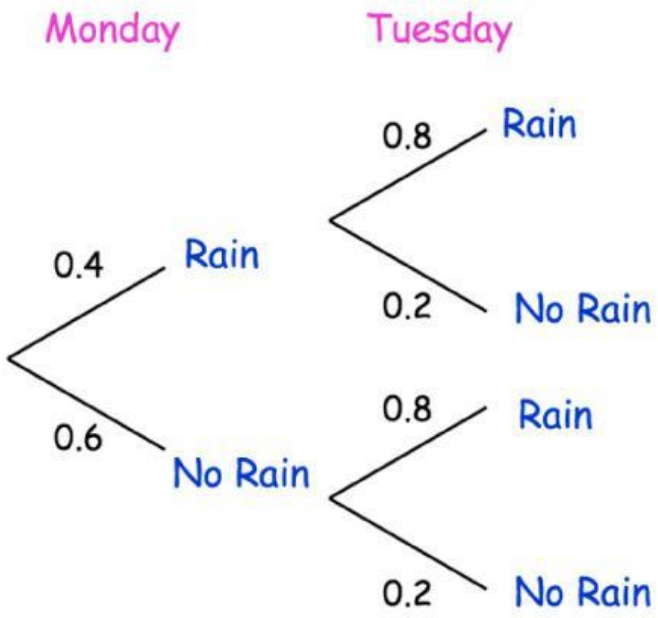
PROBABILITY : TREE DIAGRAMS

The probability that it rains on Monday is 0.4
The probability that it rains on Tuesday is 0.8

The probability tree diagram shows this information.



Work out the probability that there will be **no rain** on Monday and **no rain** on Tuesday.

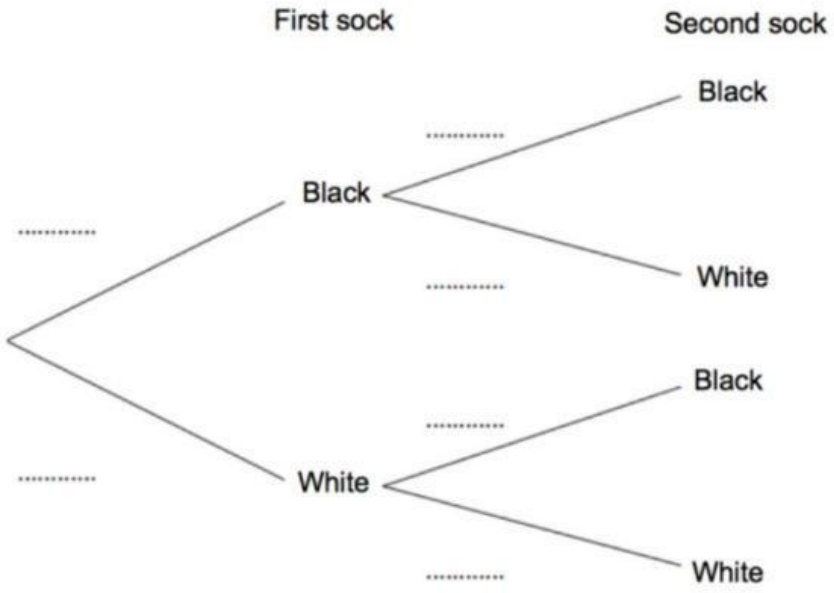
LIVEWORKSHEETS

Natalie has 8 socks in a drawer.

5 of the socks are black.
3 of the socks are white.

Natalie takes out a sock at random, writes down its colour and puts it back into the drawer.
Then Natalie takes out a second sock, at random, and writes down its colour.

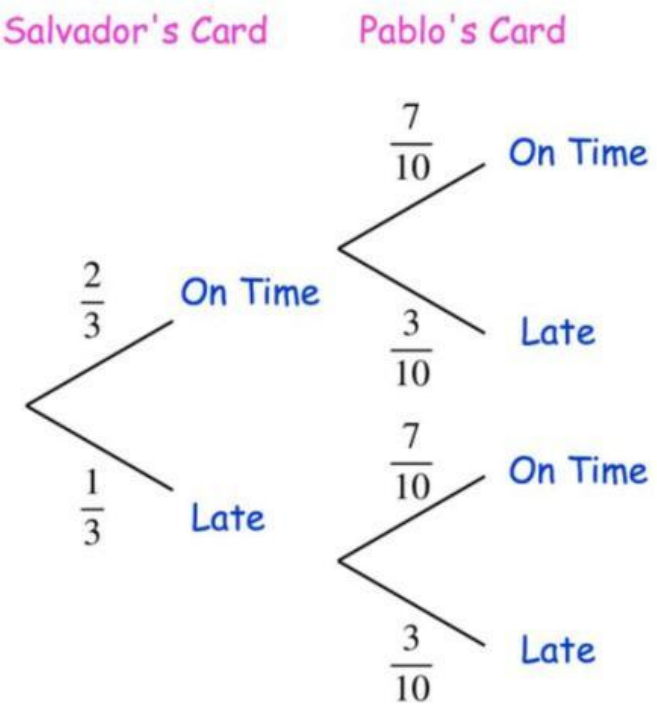
(a) Complete the probability tree diagram.



LIVEWORKSHEETS

Ross posts a birthday card to Salvador and a birthday card to Pablo.

The probability tree shows the probabilities of each card arriving on time or late.



Work out the probability that both cards arrive **on time**.

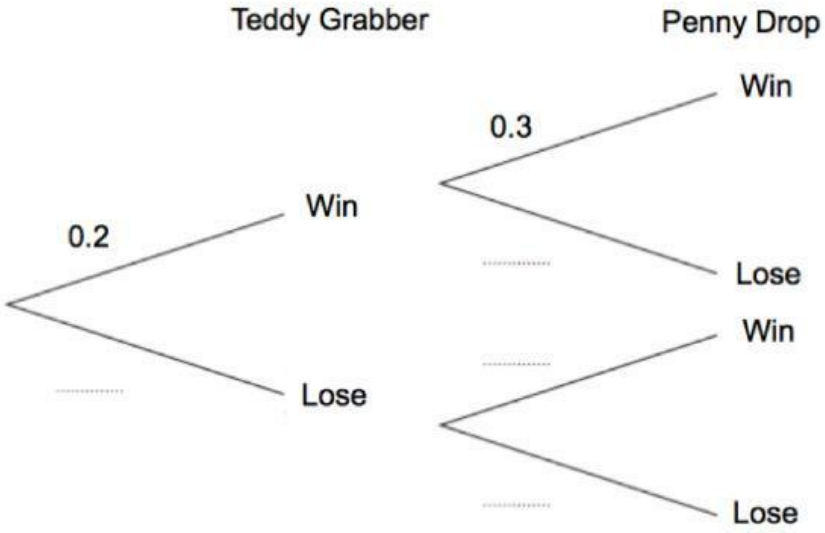
LIVEWORKSHEETS

James goes to an arcade.

He has one go on the Teddy Grabber.
He has one go on the Penny Drop.

The probability that he wins on the Teddy Grabber is 0.2.
The probability that he wins on the Penny Drop is 0.3.

(a) Complete the tree diagram.



(b) Work out the probability that James wins on the Teddy Grabber and he also wins on the Penny Drop.

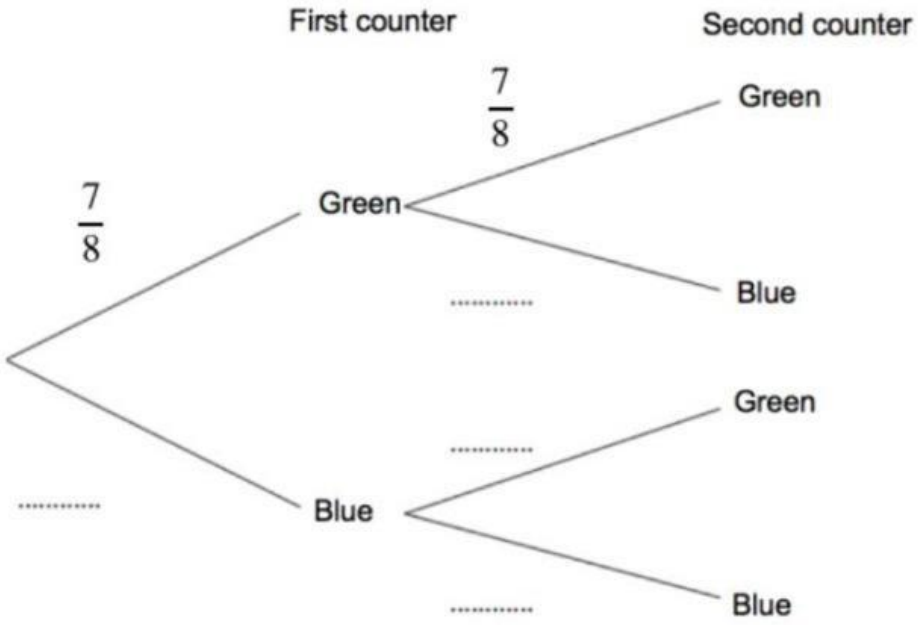
LIVEWORKSHEETS

There are green and blue counters in a container.

Kevin takes at random a counter from the container.
He replaces the counter in the container.

Kevin takes at random a second counter from the container.

(a) Complete the probability tree diagram.



(b) Work out the probability that Kevin picks counters that are different colour.

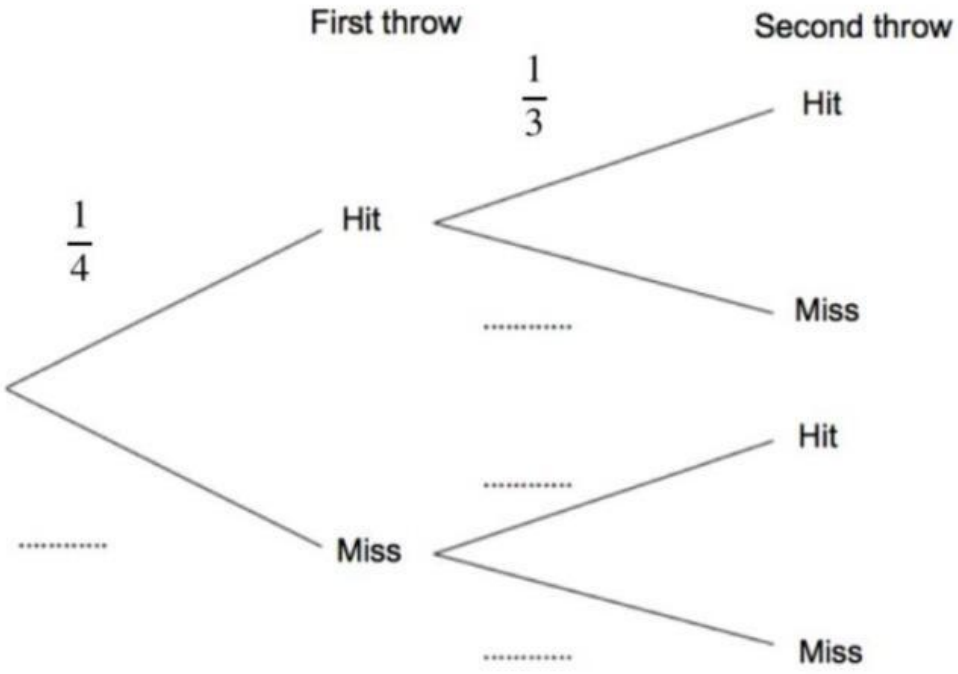
LIVEWORKSHEETS

Jennifer is playing darts.
She throws two darts aiming for a Bullseye.

The probability Jennifer hits the Bullseye on her first throw is $\frac{1}{4}$

The probability she hits the Bullseye on her second throw is $\frac{1}{3}$

(a) Complete the tree diagram.



(b) Work out the probability Jennifer hits the Bullseye at least once.

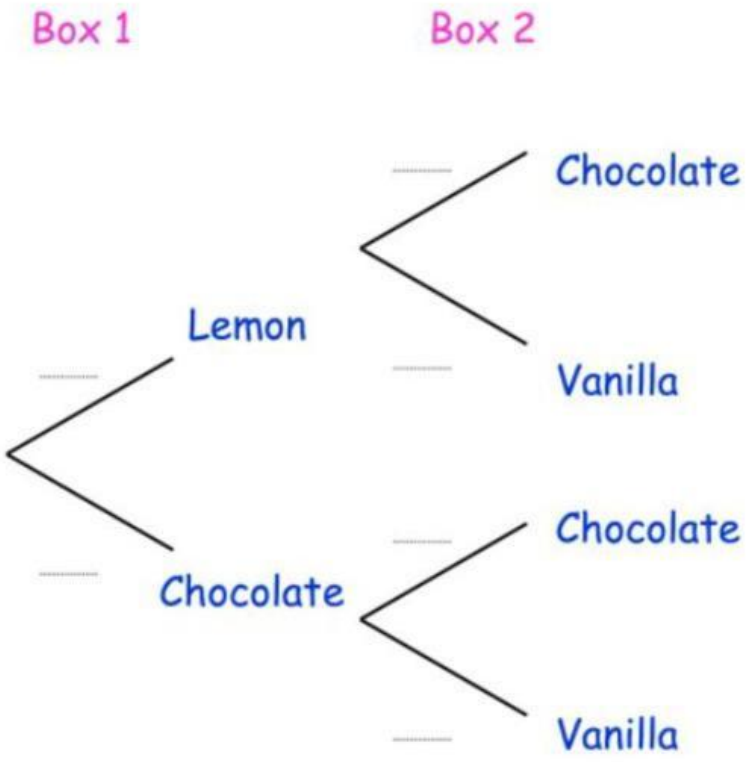
LIVEWORKSHEETS

Two boxes contain cupcakes

In box 1, there are 2 lemon and 3 chocolate cupcakes.
In box 2, there are 6 chocolate and 5 vanilla cupcakes.

Nafisa picks a cupcake at random from box 1 and then a cupcake at random from box 2.

Complete the probability tree diagram.



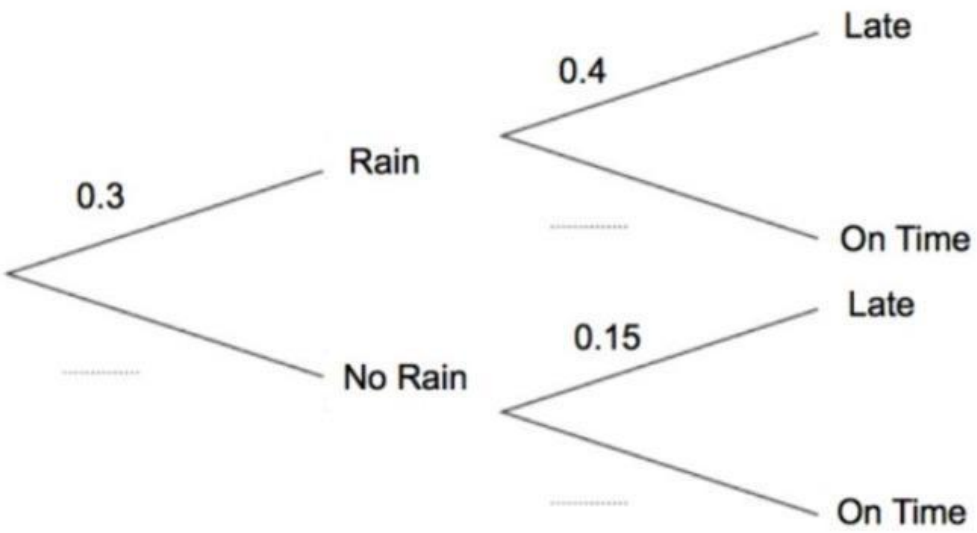
LIVEWORKSHEETS

In a small village, one bus arrives a day.

The probability of rain in the village is 0.3.

If it rains, the probability of a bus being late is 0.4.
If it does not rain, the probability of a bus being late is 0.15.

(a) Complete the tree diagram

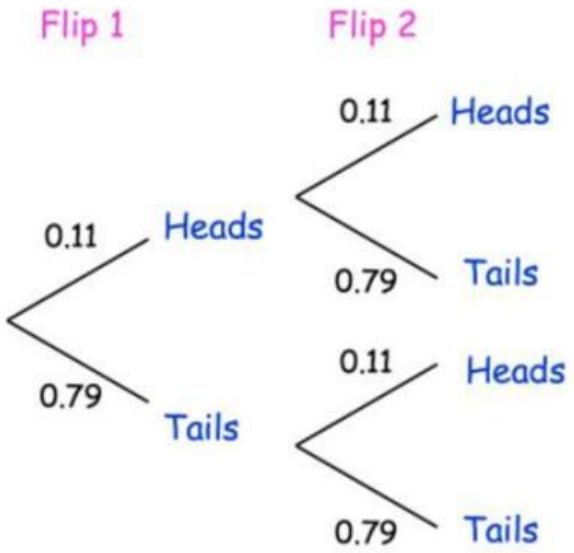


(b) Work out the number of days the bus should be late over a period of 200 days.

LIVEWORKSHEETS

Alfie has a biased coin.
When flipped, the probability that the coin lands on tails is 0.79

Alfie flips the coin twice and draws this tree diagram.



Give a criticism of Alfie's tree diagram.

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LIVEWORKSHEETS

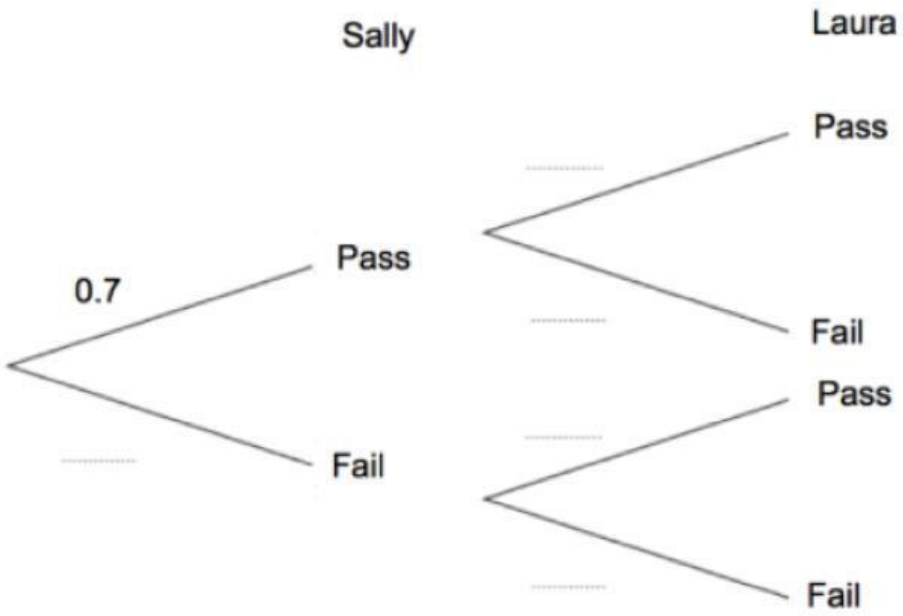
Sally and Laura sit their driving tests.

The probability of Sally passing her driving test is 0.7
The probability of both Sally and Laura passing is 0.56

(a) Work out the probability of Laura passing her driving test.

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(b) Complete the tree diagram.



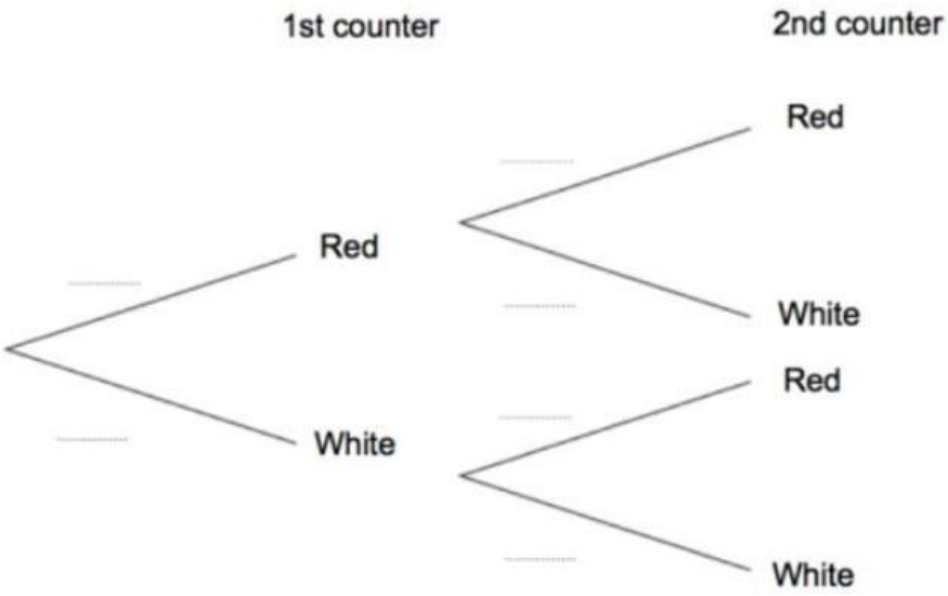
(c) Find the probability of both women failing.

LIVEWORKSHEETS

George has a bag of marbles.
There are 6 red and 4 white marbles.

George takes out a marble at random and records its colour.
Without replacement, George takes out another marble, at random.

(a) Complete the probability tree diagram.



(b) Find the probability that the two marbles are the same colour.

LIVEWORKSHEETS