



Timester Challenge



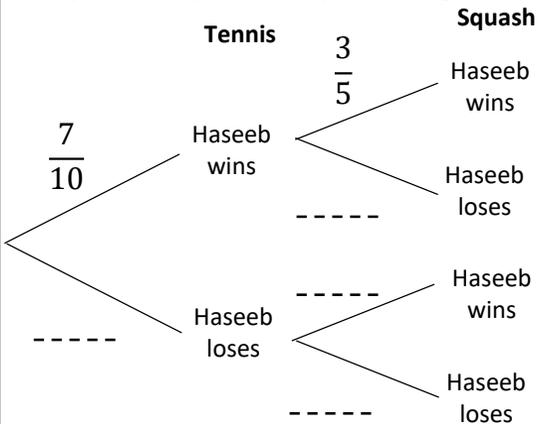
Probability Trees - Independent Events

Haseeb is going to play a tennis match and a squash match.

The probability he wins the tennis match is $\frac{7}{10}$.

The probability he wins the squash match is $\frac{3}{5}$.

Complete the probability tree diagram.



Calculate the probability that Haseeb will lose both matches.

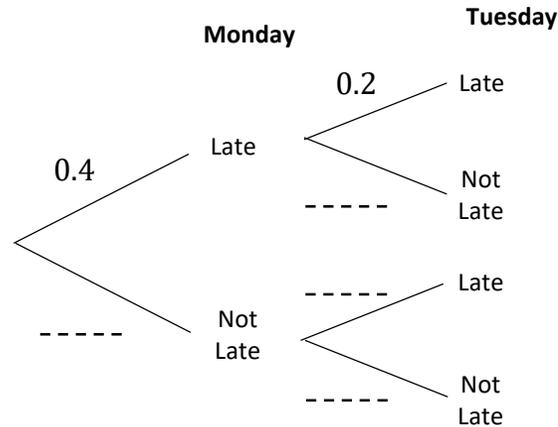
Bronze ★

Jo walks to school everyday.

The probability Jo is late on a Monday is 0.4.

The probability Jo is late on a Tuesday is 0.2.

Complete the probability tree diagram.



Workout the probability that Jo is late on only one of the days.

Silver ★

There are 4 black pens, 4 blue pens and 2 red pens in a pack.

Julia takes at random a pen from the pack notes the colour and puts it back in the pack.

Work out the probability she selects two pens the same colour.

Gold ★



Timester Challenge

Answers

Probability Trees - Independent Events

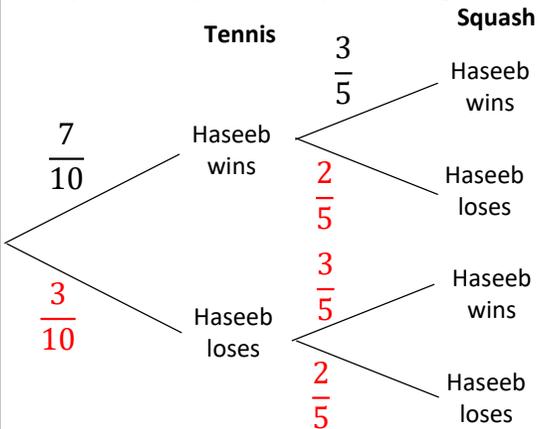


Haseeb is going to play a tennis match and a squash match.

The probability he wins the tennis match is $\frac{7}{10}$.

The probability he wins the squash match is $\frac{3}{5}$.

Complete the probability tree diagram.



Calculate the probability that Haseeb will lose both matches.

$$\frac{3}{10} \times \frac{2}{5} = \frac{6}{50} = \frac{3}{25}$$

Bronze

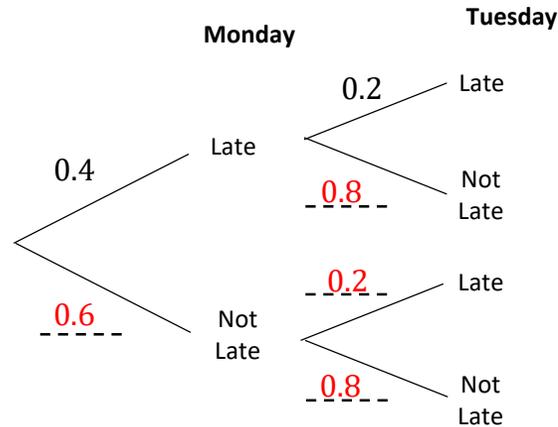


Jo walks to school everyday.

The probability Jo is late on a Monday is 0.4.

The probability Jo is late on a Tuesday is 0.2.

Complete the probability tree diagram.



Workout the probability that Jo is late on only one of the days.

$$P(\text{Late, Not Late}) = 0.4 \times 0.8 = 0.32$$

$$P(\text{Not Late, Late}) = 0.6 \times 0.2 = 0.12$$

$$P(\text{Late One Day}) = 0.32 + 0.12 = 0.44$$

Silver



There are 4 black pens, 4 blue pens and 2 red pens in a pack.

Julia takes at random a pen from the pack notes the colour and puts it back in the pack.

Work out the probability she selects two pens the same colour.

$$P(\text{Black, Black}) = \frac{4}{10} \times \frac{4}{10} = \frac{16}{100}$$

$$P(\text{Blue, Blue}) = \frac{4}{10} \times \frac{4}{10} = \frac{16}{100}$$

$$P(\text{Red, Red}) = \frac{2}{10} \times \frac{2}{10} = \frac{4}{100}$$

$$P(\text{Same Colour}) = \frac{16}{100} + \frac{16}{100} + \frac{4}{100} = \frac{36}{100} = \frac{18}{50} = \frac{9}{25}$$

Gold

