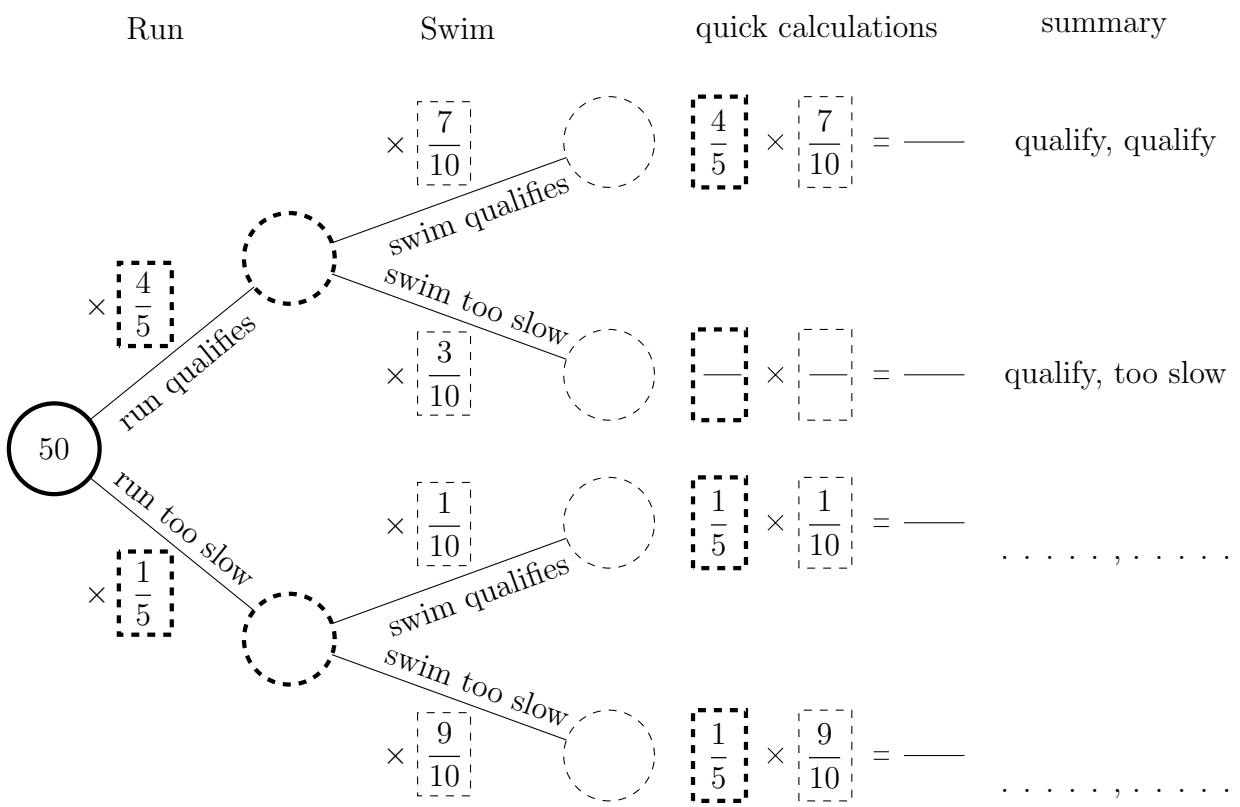
To enter an "iron-person" competition Halima needs to run 15 km and swim 3 km fast enough.

The probability that Halima's run qualifies (she runs fast enough) is $\frac{4}{5}$

When Halima run qualifies the probability her swim qualifies (she swims fast enough) is $\frac{7}{10}$

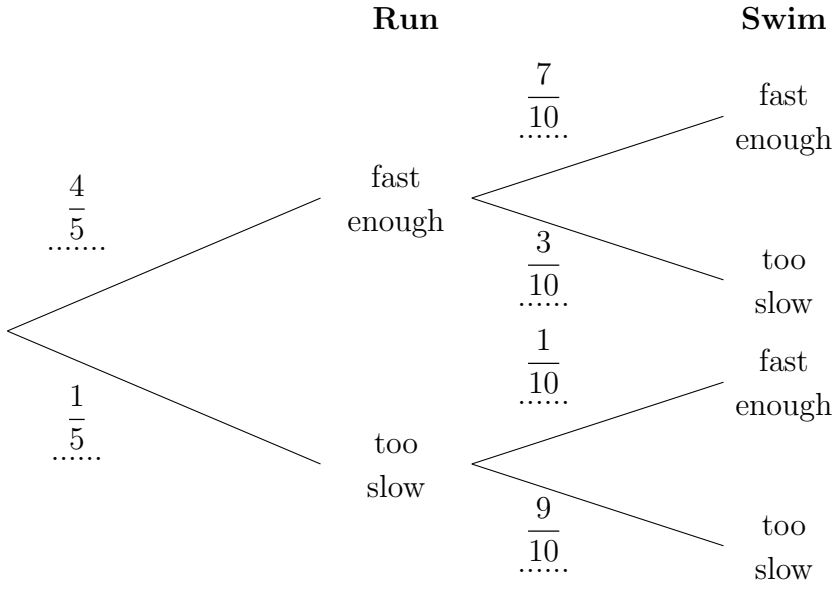
When she runs too slow to qualify the probability she her swim qualifies is $\frac{1}{10}$

1. (a) Complete the tree, quick calculations and outcome summary.



(b) Work out the probability that Halima's run is not fast enough but her swim qualifies.

2. {similar intro}



b) Work out the probability that Halima's run is too slow but her swim is fast enough.

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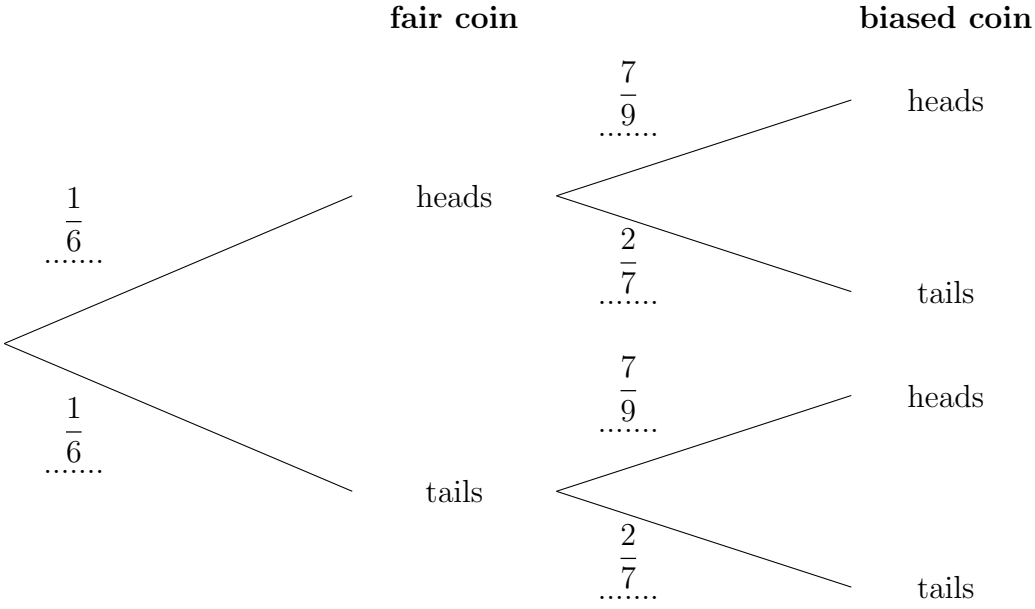
3. (a) Wren will throw 2 coins.
One coin is a fair coin.
The other coin is a biased coin.
The probability of getting a head with the biased coin is $\frac{7}{9}$

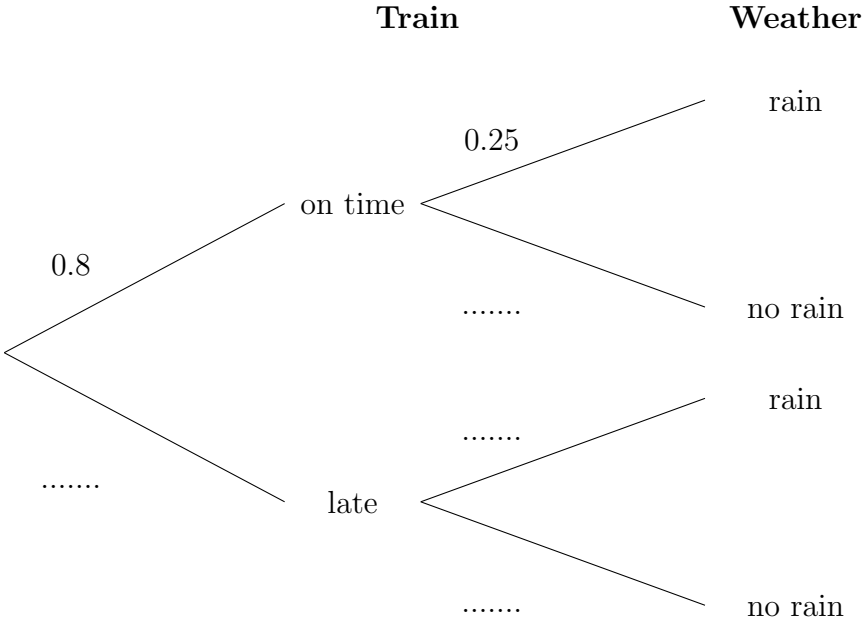
She draws this probability tree diagram.
The diagram is **not** correct.



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

(b) Zoey catches a train to work and then runs home.
The probability that the train is on time is 0.8
The probability that it rains when she runs home is 0.25

(i) Complete the probability tree diagram.



(ii) Work out the probability that her train is on time and it doesn't rain.

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