

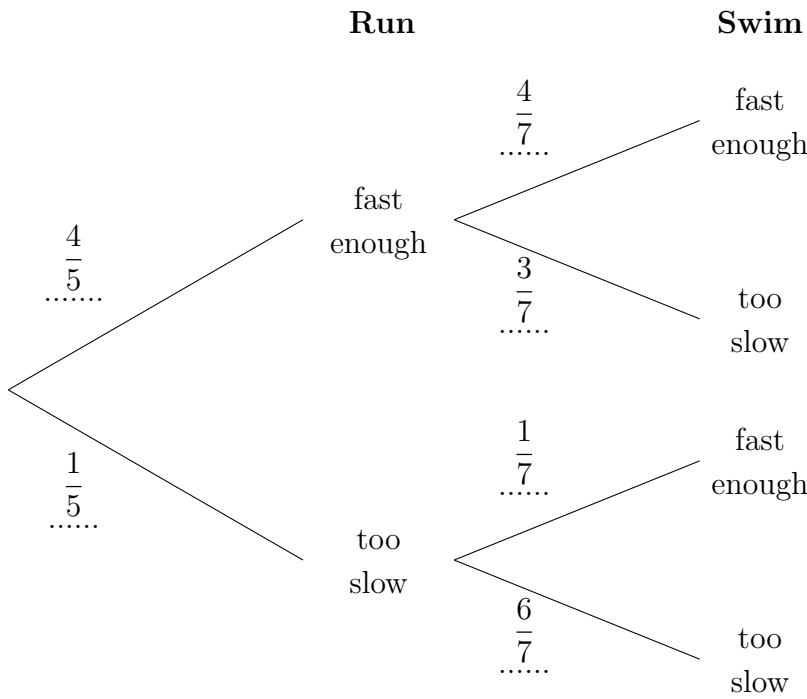
1. Zaid wants to enter an “iron-person” competition.

To qualify he needs to run 15 km and swim 3 km fast enough.

The probability Zaid can run 15 km within the time is $\frac{4}{5}$

When Zaid runs fast enough the probability he can swim fast enough is $\frac{4}{7}$

When he doesn't run fast enough the probability he can swim fast enough is $\frac{1}{7}$



Work out the probability that Zaid's run is fast enough but his swim is too slow.

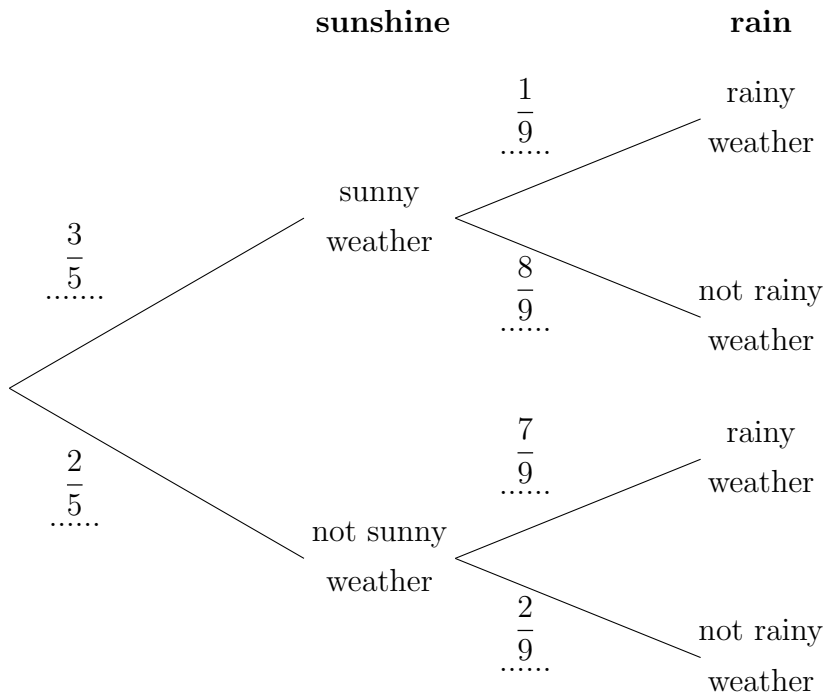
1.

2. Nangila likes rainbows, she knows that rainbows occur when it is sunny and raining.

The probability that the next hour is sunny is $\frac{3}{5}$

If it is sunny the probability that there is rain in the next hour is $\frac{1}{9}$

If it is not sunny the probability that there is rain in the next hour is $\frac{7}{9}$



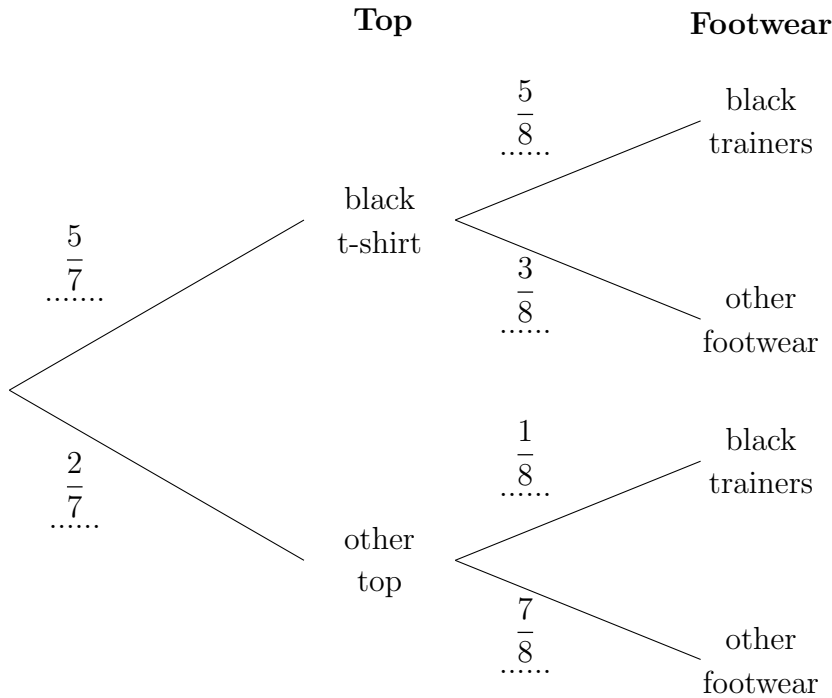
Work out the probability of there being no sun and no rain.

2.

3. The probability Ruby wears a black t-shirt is $\frac{5}{7}$

When Ruby wears a black t-shirt the probability she wears black trainers is $\frac{5}{8}$

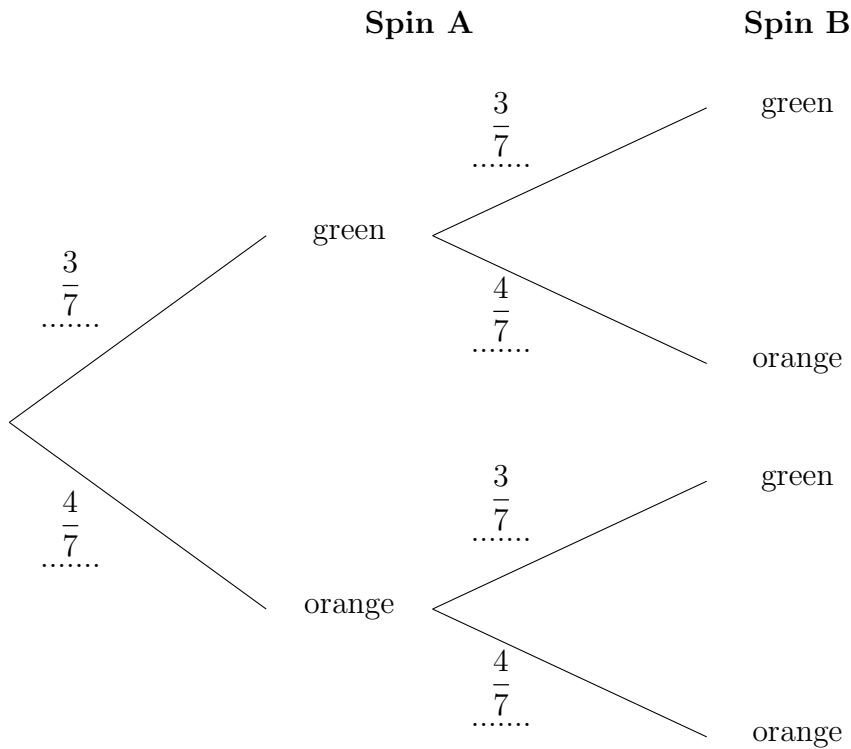
When Ruby doesn't wear a black t-shirt the probability she wears black trainers is $\frac{1}{8}$



Work out the probability of Ruby not wearing a black t-shirt and wearing black trainers.

3.

4. Renae spins a fair 7-sided spinner twice.
 3 of the spinners sides are coloured green.
 4 of the spinners sides are coloured orange.



Work out the probability of the spinner landing on orange the first time and green the second time.

4.

Answers

1. $\dots \frac{12}{35} \dots$
FYI: $\frac{4}{5} \times \frac{3}{7} M1$
2. $\dots \frac{4}{45} \dots$
FYI: $\frac{2}{5} \times \frac{2}{9} M1$
3. $\dots \frac{2}{56} \text{ or } \frac{1}{28} \dots$
FYI: $\frac{2}{7} \times \frac{1}{8} M1$
4. $\dots \frac{12}{49} \dots$
FYI: $\frac{4}{7} \times \frac{3}{7} M1$