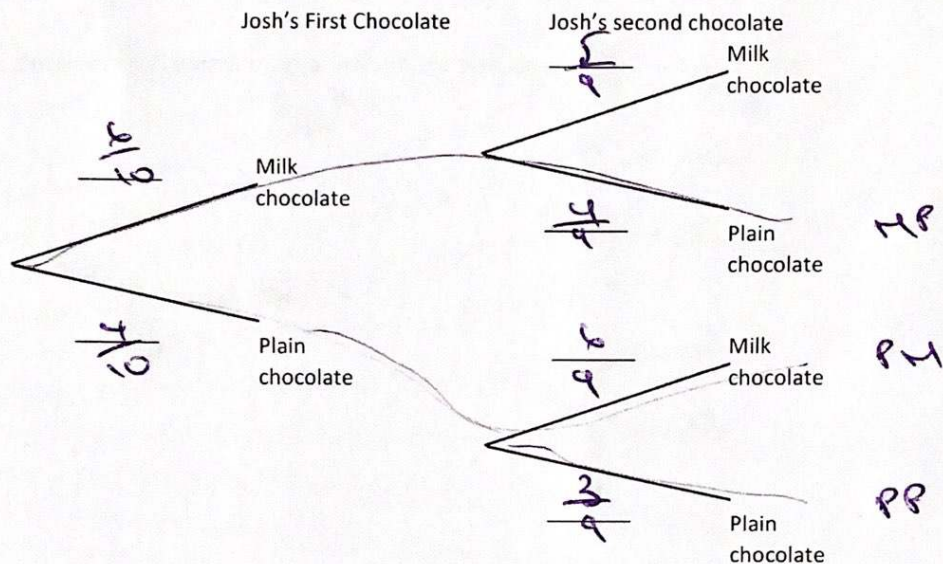






2. There are 6 milk chocolates and 4 plain chocolates in a box. Josh takes a random chocolate from the box and eats it. He then takes another chocolate and eats that as well.

a) Complete the probability tree diagram.



b) Find the probability that Josh eats at least one plain chocolate.

$$\begin{aligned} MP &= \frac{6}{10} \times \frac{4}{9} = \frac{24}{90} \\ PM &= \frac{4}{10} \times \frac{3}{9} = \frac{12}{90} \\ PP &= \frac{4}{10} \times \frac{6}{9} = \frac{24}{90} \end{aligned}$$
$$\frac{24}{90} + \frac{12}{90} + \frac{24}{90} = \frac{60}{90} = \frac{2}{3}$$





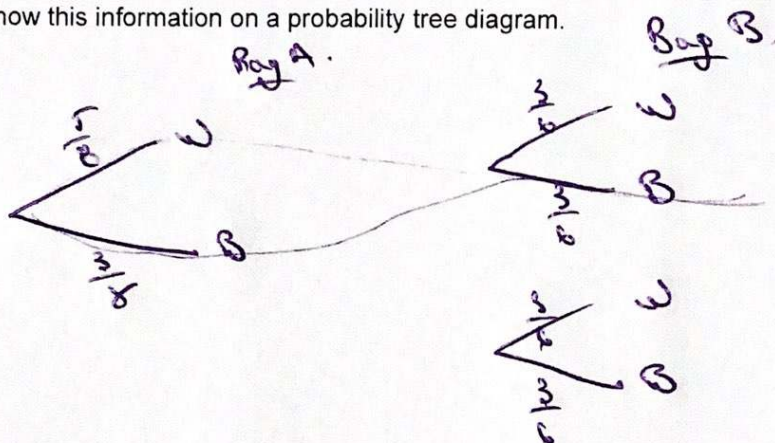
3. Carrie has two bags.

In bag A there are 5 white counters and 3 blue counters.

In bag B there are 3 white counters and 3 blue counters.

Carrie takes at random one counter from each bag.

a) Show this information on a probability tree diagram.



b) Find the probability that both counters will be blue.

$$BB = \frac{3}{8} \times \frac{3}{6} = \frac{9}{48} = \frac{3}{16}$$

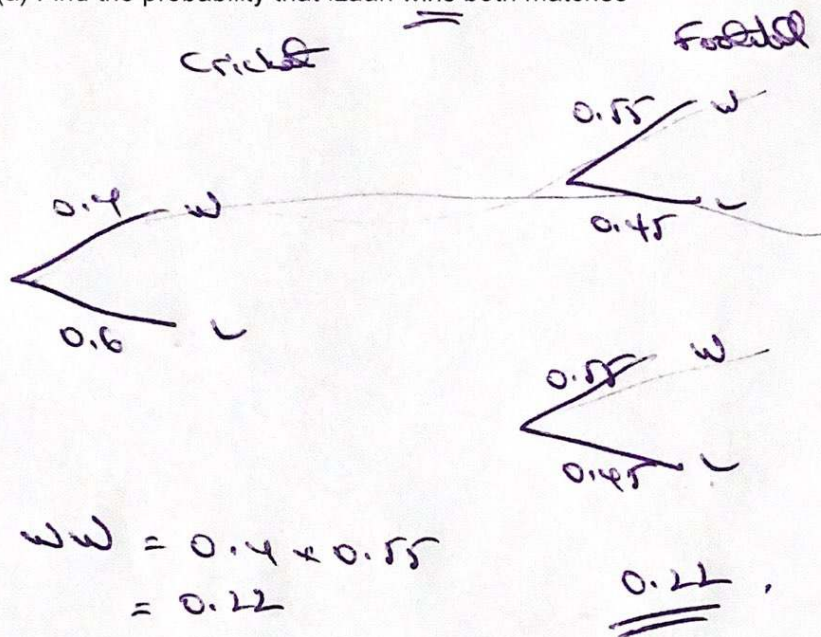
c) Find the probability that only one of the counters will be white.

$$WB = \frac{5}{8} \times \frac{3}{6} = \frac{15}{48}$$
$$BW = \frac{3}{8} \times \frac{3}{6} = \frac{9}{48}$$
$$\frac{15}{48} + \frac{9}{48} = \frac{24}{48} = \frac{1}{2}$$



4. Izaan plays cricket on Saturday and football on Sunday. The probability that he wins his cricket match is 0.4, and the probability he wins his football match is 0.55.

(a) Find the probability that Izaan wins both matches



(b) Find the probability that Izaan wins at least one of his matches.

WW		= 0.22
WL	$0.4 \times 0.45$	= 0.18
LW	$0.6 \times 0.55$	= 0.33
		<u>0.73</u>