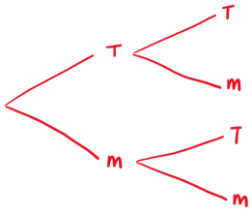
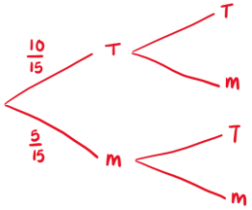
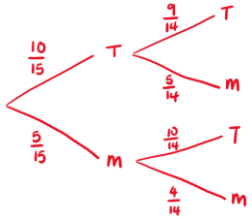
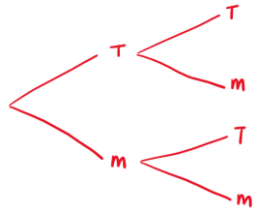
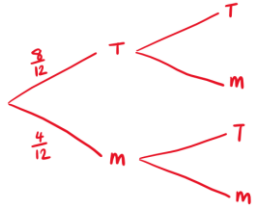
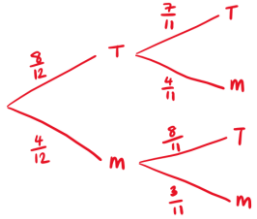
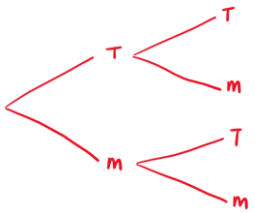
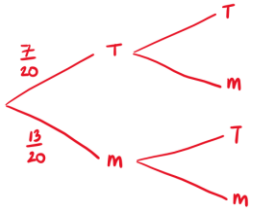
a) There are 15 sweets in a bag.
10 of the sweets are toffee and 5 are mint.
Reece takes two of the sweets at random.
Work out the probability that Reece takes one of each type of sweet.

Draw a tree diagram.	
What is the probability of choosing each type of sweet first?	
What is the probability of choosing each type of sweet second?	
What is the probability of choosing one of each type of sweets?	$P(T, M) = \frac{10}{15} \times \frac{5}{14} = \frac{50}{210}$ $P(M, T) = \frac{5}{15} \times \frac{10}{14} = \frac{50}{210}$ $\frac{50}{210} + \frac{50}{210} = \frac{100}{210} = \frac{10}{21}$

b) There are 12 sweets in a bag.
8 of the sweets are toffee and 4 are mint.
Reece takes two of the sweets at random.
Work out the probability that Reece takes one of each type of sweet.

Draw a tree diagram.	
What is the probability of choosing each type of sweet first?	
What is the probability of choosing each type of sweet second?	
What is the probability of choosing one of each type of sweets?	

c) There are 20 sweets in a bag.
7 of the sweets are toffee and 13 are mint.
Reece takes two of the sweets at random.
Work out the probability that Reece takes one of each type of sweet.

Draw a tree diagram.	
What is the probability of choosing each type of sweet first?	
What is the probability of choosing each type of sweet second?	
What is the probability of choosing one of each type of sweets?	

d) There are 35 sweets in a bag.
20 of the sweets are toffee and 15 are mint.
Reece takes two of the sweets at random.
Work out the probability that Reece takes one of each type of sweet.