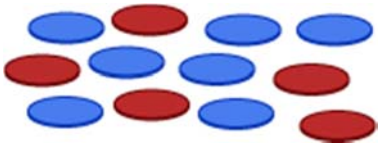
PROBABILITY TREES WITHOUT REPLACEMENT

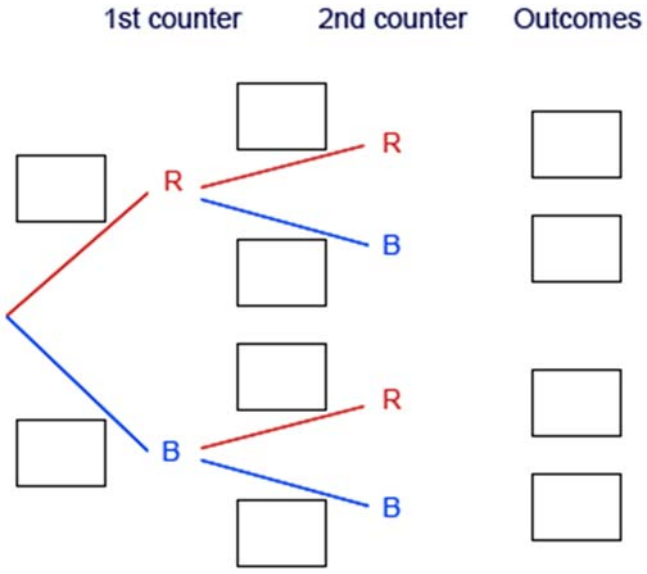
TASK 1 Counter counting

A bag contains 5 red counters and 7 blue counters.

You are asked to take two counters from the bag.



1 Complete the probability tree diagram representing this information.



2 Find the probability that the counters chosen:

a are both blue

b are both the same colour

c are different colours

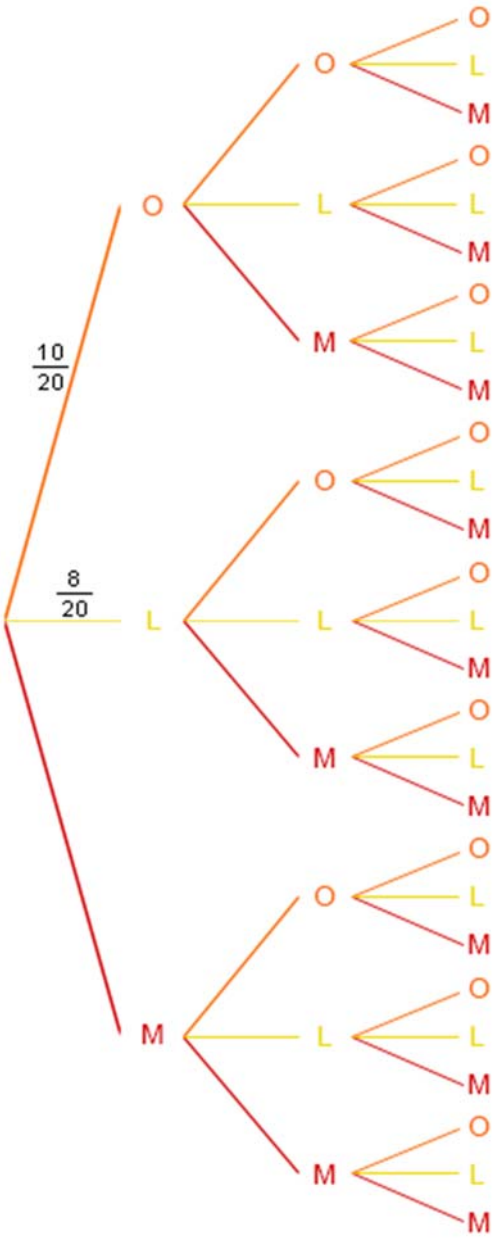
TASK 2 **Flavour challenge**

Ahmed is eating fruit jubes in the dark at the movies. The packet contains 20 jubes, half of which are orange flavoured, $\frac{2}{5}$ are lemon and the remainder are mandarin.

1 What is the probability that the first jube Ahmed eats is mandarin flavour?

2 Complete the tree diagram representing this information. Write all probabilities on the branches and list the outcomes.

Note that the events of eating jubes are dependent events, so take care with the probabilities on the branches.



3 What is the probability that the first two jubes he eats are lemon and mandarin (in that order)?

4 What is the probability that the first two jubes he eats are lemon and mandarin (in any order)?

5 What is the probability that all three jubes he eats are mandarin?

6 What is the probability that all three jubes he eats are the same flavour?