Higher Homework 38 : Probability

1. The table below shows the probabilities of choosing a counter from a bag.

The value of black to yellow is in a ratio of 3:1
There are 24 yellow counters.
How many counters are there all together?

Red	Black	Green	Yellow
0.18	0.24	0.5	0.08

54 counters 72 counters 150 counters 24 counters

300 counters

(3 marks)

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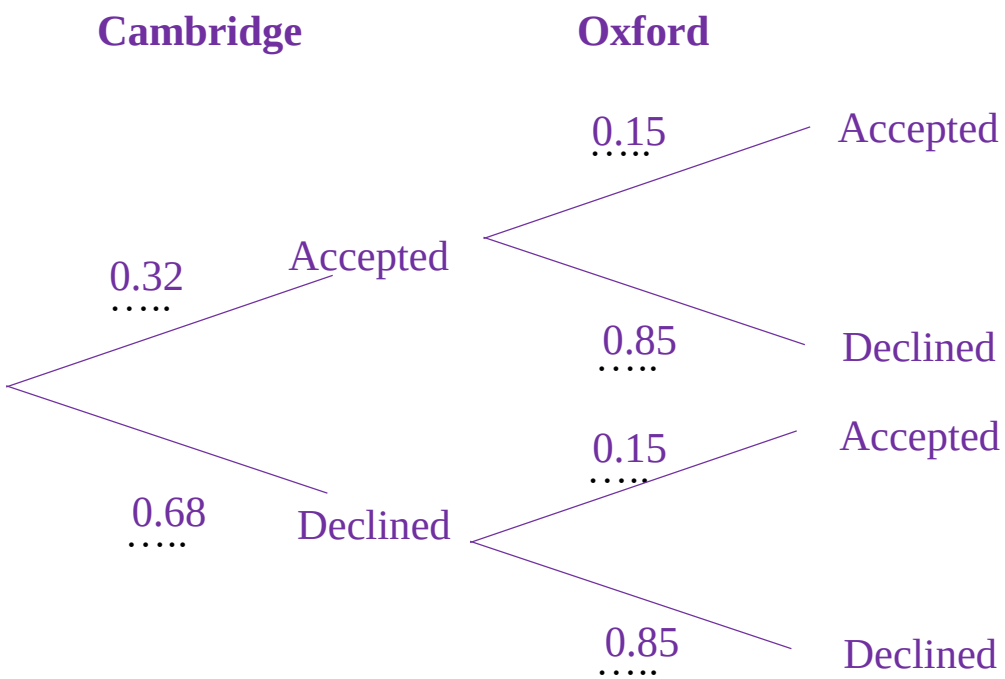
2. Lydia is applying for both Cambridge and Oxford Universities.
The probability she will be accepted to Cambridge is 0.32
The probability she will be declined by Oxford is 0.85

(a) Draw a tree diagram to show this.



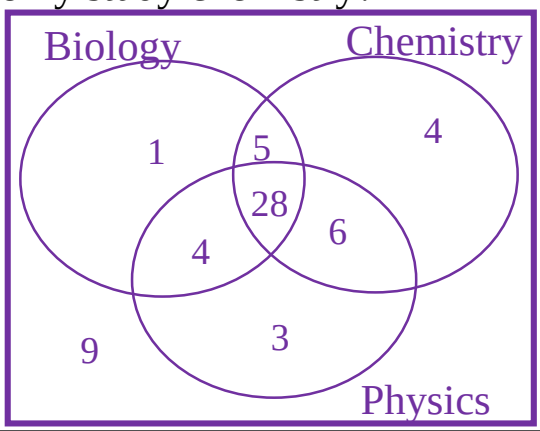
(2 marks)

(b) Work out the probability she will be accepted at only 1.

0.374

(2 marks)

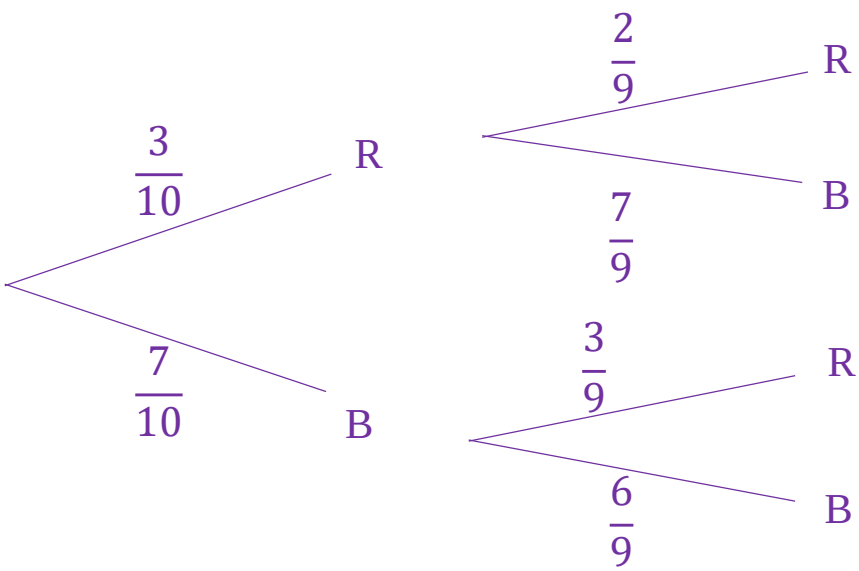
3. 60 students attend a small sixth form college.
28 students study all 3 sciences.
34 students study chemistry and physics.
32 study biology and physics.
5 students study biology and chemistry, but not physics.
3 study only physics.
38 students in total study biology.
9 students don't study any science at all.
How many students only study chemistry?



4 people

(4 marks)

2. There are 3 red counters and 7 blue counters in a bag.
One counter is taken out, not replaced.
A second counter is then taken.
(a) Draw a tree diagram to display this information.



(2 marks)

(b) Work out the probability that at least one is a red.

$\frac{8}{15}$

(3 marks)

Score =