



EXAM PAPERS PRACTICE

GCSE OCR Math J560

Combined Probability

Question Paper

*"We will help you to
achieve A Star "*



Question 1

(b) Work out the probability that Wendy wins at Hoopla and also wins on the Coconut shy.

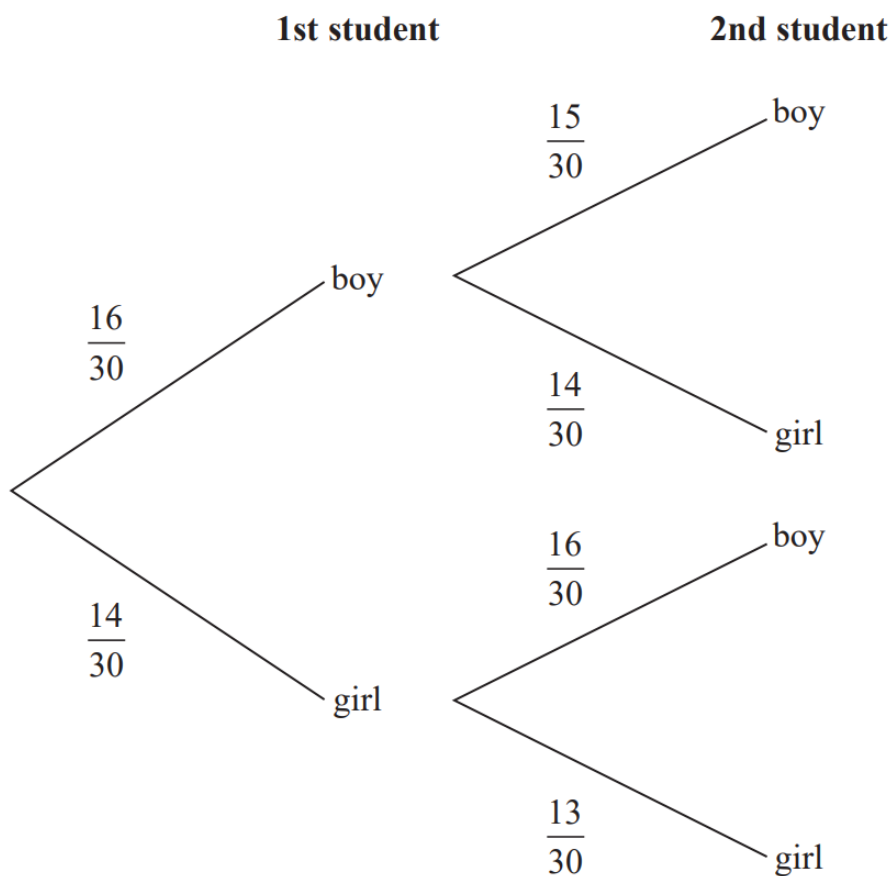
[2 marks]

Question 2

There are 30 students in Mr Lear's class.
16 of the students are boys.

Two students from the class are chosen at random.

Mr Lear draws this probability tree diagram for this information.



(a) Write down **one** thing that is wrong with the probabilities in the probability tree diagram.

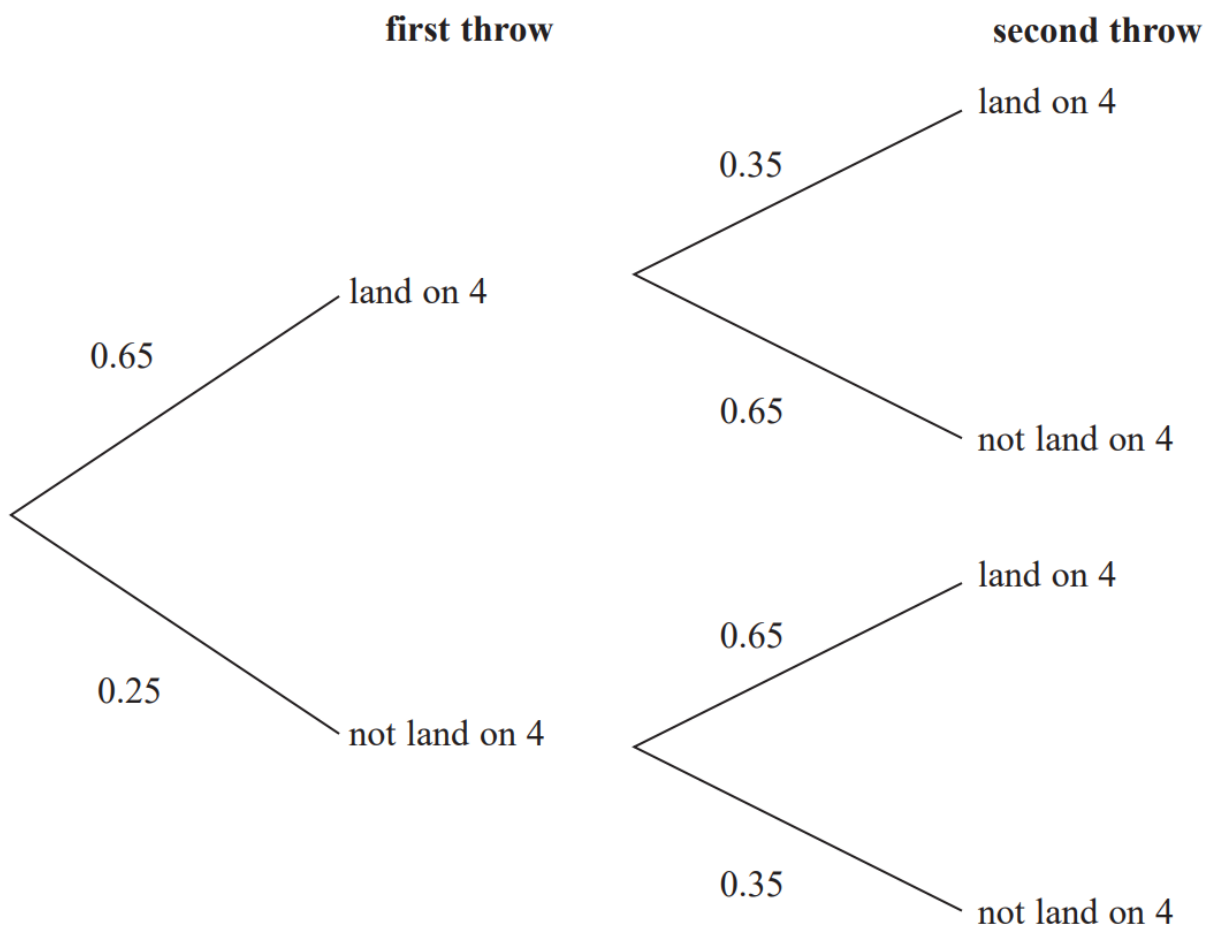
[1 mark]



Question 3

When a biased 6-sided dice is thrown once, the probability that it will land on 4 is 0.65
The biased dice is thrown twice.

Amir draws this probability tree diagram.
The diagram is **not** correct.



Write down **two** things that are wrong with the probability tree diagram.

[2 marks]



Question 4

Paul says,

“With this coin you are twice as likely to get heads as to get tails.”

(b) Is Paul correct?

Justify your answer.

[2 marks]

Question 5

(b) Calculate the probability that the number on the second tile Jim takes is greater than the number on the first tile he takes.

[3 marks]

Question 6

Shabeen has a biased coin.

The probability that the coin will land on heads is 0.6

Shabeen is going to throw the coin 3 times.

She says the probability that the coin will land on tails 3 times is less than 0.1

Is Shabeen correct?

You must show all your working.

[3 marks]



Question 7

(b) Work out the probability that the spinner lands on two different colours.

[3 marks]

Question 8

(b) Work out the probability that, on a day in June, it does **not** rain and my tennis match is cancelled.

[2 marks]

Question 9

There are three different types of sandwiches on a shelf.

There are

4 egg sandwiches,
5 cheese sandwiches
and 2 ham sandwiches.

Erin takes at random 2 of these sandwiches.

Work out the probability that she takes 2 different types of sandwiches.

[5 marks]



Question 10

Yvonne has 10 tulip bulbs in a bag.

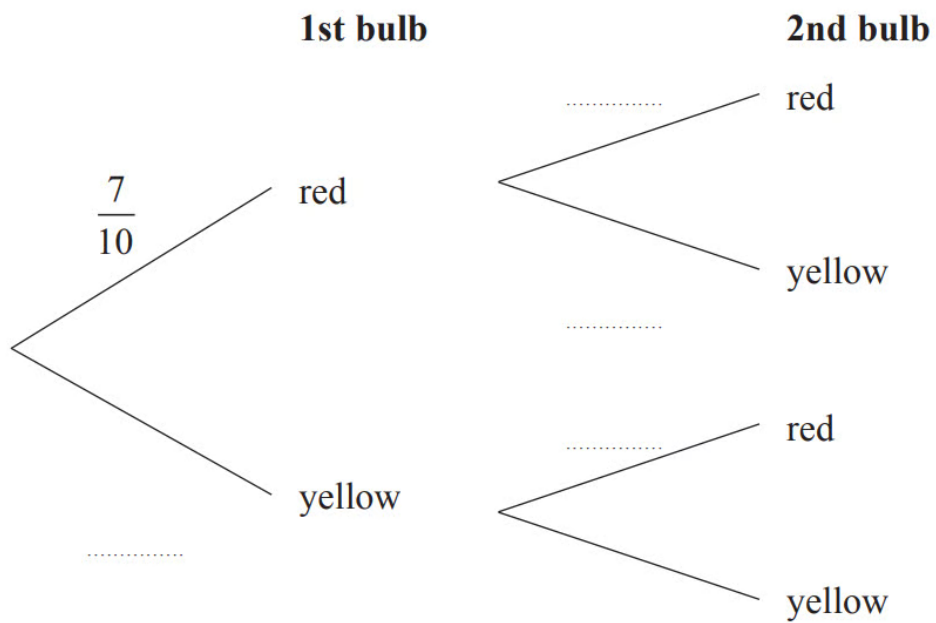
7 of the tulip bulbs will grow into red tulips.

3 of the tulip bulbs will grow into yellow tulips.

Yvonne takes at random two tulip bulbs from the bag.

She plants the bulbs.

(a) Complete the probability tree diagram.



[2 marks]



Question 11

Nomusa has 30 sweets.

She has

18 fruit sweets

7 aniseed sweets

5 mint sweets

Nomusa is going to take at random two sweets.

Work out the probability that the two sweets will **not** be the same type of sweet.
You must show all your working.

[4 marks]

Question 12

There are 7 blue counters, 3 green counters and 1 red counter in a bag.
There are no other counters in the bag.

Hubert takes at random 2 counters from the bag.

(a) Work out the probability that both counters are blue.

[3 marks]



Question 13

There are n sweets in a bag.

6 of the sweets are orange.

The rest of the sweets are yellow.

Hannah takes at random a sweet from the bag.

She eats the sweet.

Hannah then takes at random another sweet from the bag.

She eats the sweet.

The probability that Hannah eats two orange sweets is $\frac{1}{3}$

(a) Show that $n^2 - n - 90 = 0$

[3 marks]

Question 14

John has an empty box.

He puts some red counters and some blue counters into the box.

The ratio of the number of red counters to the number of blue counters is 1 : 4

Linda takes at random 2 counters from the box.

The probability that she takes 2 red counters is $\frac{6}{155}$

How many red counters did John put into the box?

[4 marks]



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Question 15

(b) Give a reason why David's actual profit may be different to the profit he expects to make.

[1 mark]