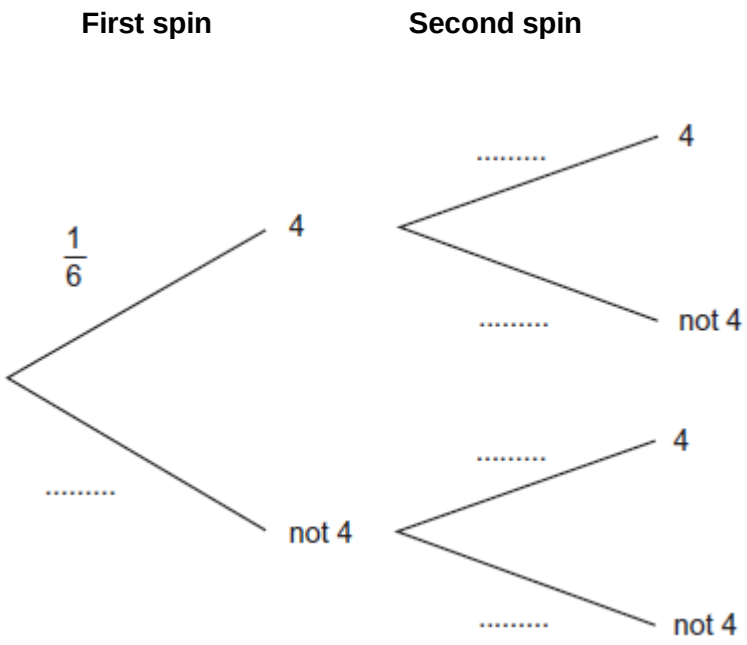
Q1.

An ordinary fair dice is rolled.

(a) Complete the tree diagram for the dice landing on 4



(1)

(b) Work out the probability of the dice landing on 4 both times.

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Answer .....

(2)

(Total 3 marks)

Q2. A bag contains triangles and quadrilaterals in the ratio of the number of sides of each shape.

(a) Explain why the least number of shapes that could be in the bag is 7.

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(1)

(b) A shape is taken at random from the bag and **replaced**.
Another shape is then taken from the bag.

Work out the probability that the two shapes taken from the bag are of the same type.

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Answer .....

(4)
(Total 5 marks)

Q3. Two ordinary fair dice are thrown.
One dice shows a number greater than 3.
The other dice shows a number less than 3.

Put these statements in order, starting with the least likely.

A Both dice show an even number.

B Both dice show an odd number.

C One dice shows an odd number and one dice shows an even number.

You **must** show your working.

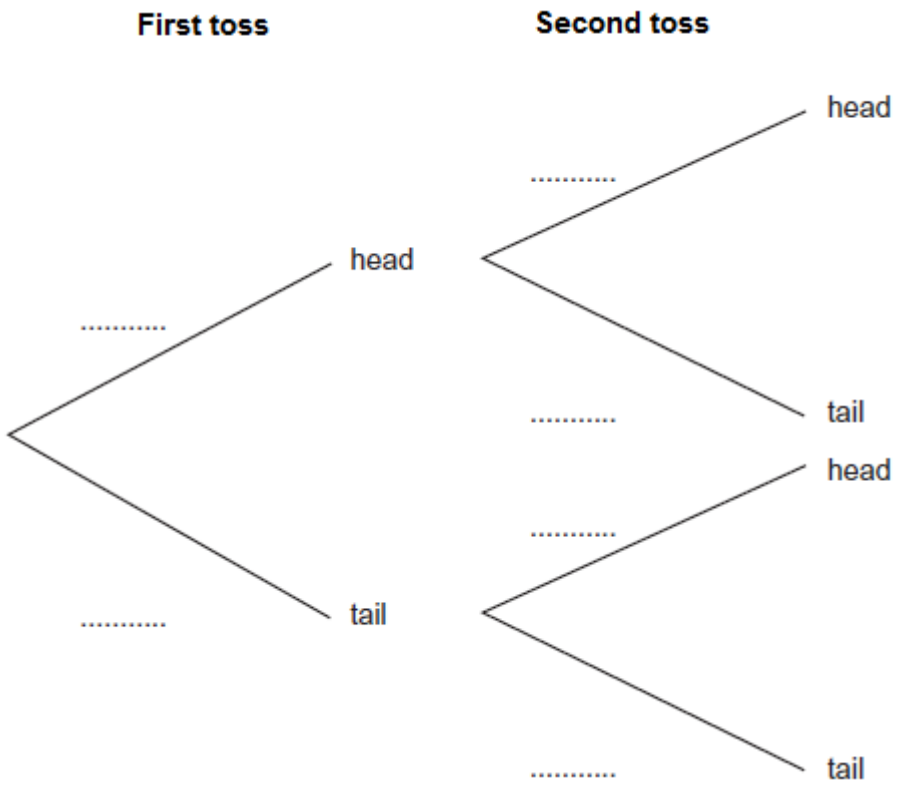
Answer ..... , ... , ...

(Total 3 marks)

Q4. The probability of a biased coin landing on heads is $\frac{2}{5}$

The coin is tossed twice.

Complete the tree diagram.



(Total 3 marks)

Q5.A bag only contains black counters and white counters.
A counter is chosen from the bag at random and replaced.
Another counter is then chosen from the bag at random.
The probability of choosing two black counters is 0.36

(a) Show that the probability of choosing a black counter each time is 0.6

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(1)

(b) Work out the probability of choosing two white counters.

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Answer .....

(2)

(c) Work out the probability of choosing at least one white counter.

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Answer .....

(2)
(Total 5 marks)

Q6. Some animals are **twice** as likely to have male babies as female babies.

(a) Explain why the probability of a male baby is $\frac{2}{3}$.

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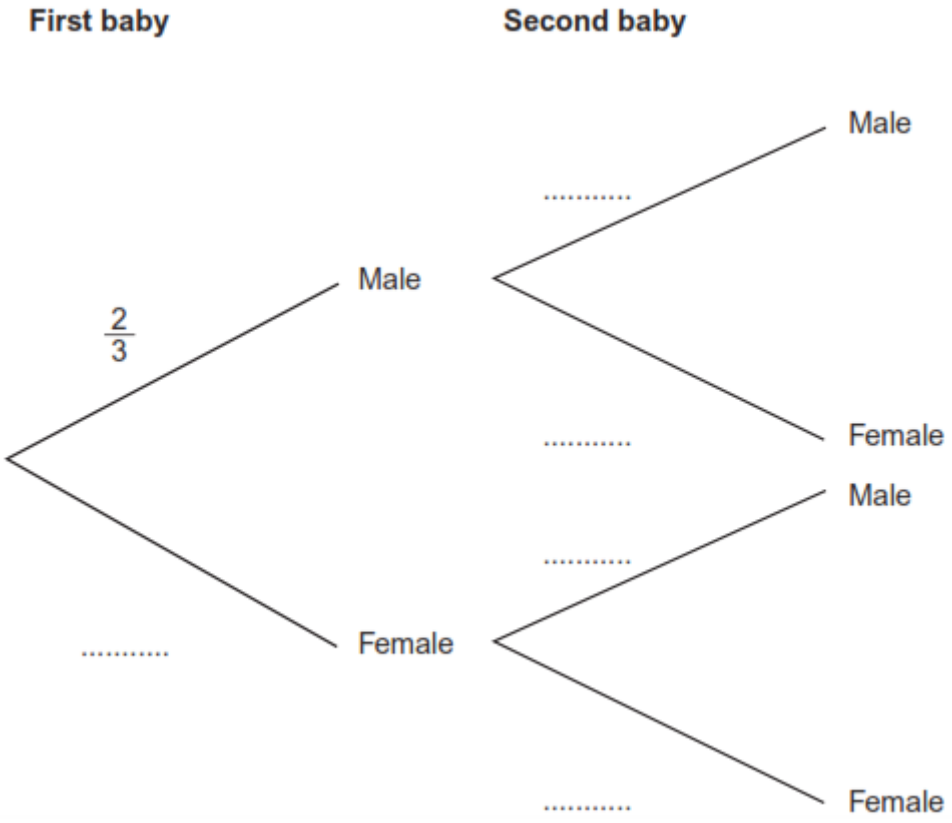
(1)

(b) One of these animals is expecting two babies.

Complete the tree diagram to show all possible outcomes.



(2)

(c) A scientist wants to predict the likely outcomes for the babies' genders.

Which is more likely, two of the same gender or one of each?
You **must** show your working.

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Answer .....

(4)
(Total 7 marks)