NAME

Time:

Non-Calculator Questions

7th

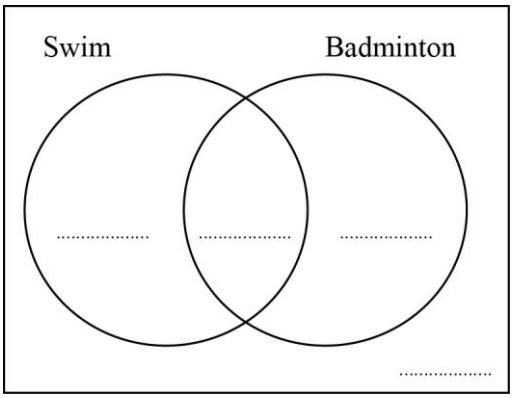
1 A total of 40 students are going to the sports centre.

12 students will both swim and play badminton.

14 students will swim but will not play badminton.

A total of 20 students will play badminton.

a Complete the Venn diagram for this information.



(3 marks)

One of the students going to the sports centre is to be selected at random.

b Write down the probability that this student is not going to swim or play badminton.

(1 mark)

5th

3 Mandy and Pete have a biased spinner numbered 1, 2, 3, 4, 5.

They each want to find an estimate for the probability that the spinner will land on a 5.

Mandy spins the spinner 20 times and records the number of times the spinner lands on a 5.

Pete spins the spinner 200 times and records the number of times the spinner lands on a 5.

Is Mandy or Pete more likely to get the better estimate?

You must give a reason for your answer.

(1 mark)

8th

5 There are black socks, grey socks and blue socks in a drawer, in the ratio 2:3:5.

A sock is taken at random from the drawer.

Work out the probability that the sock is grey.

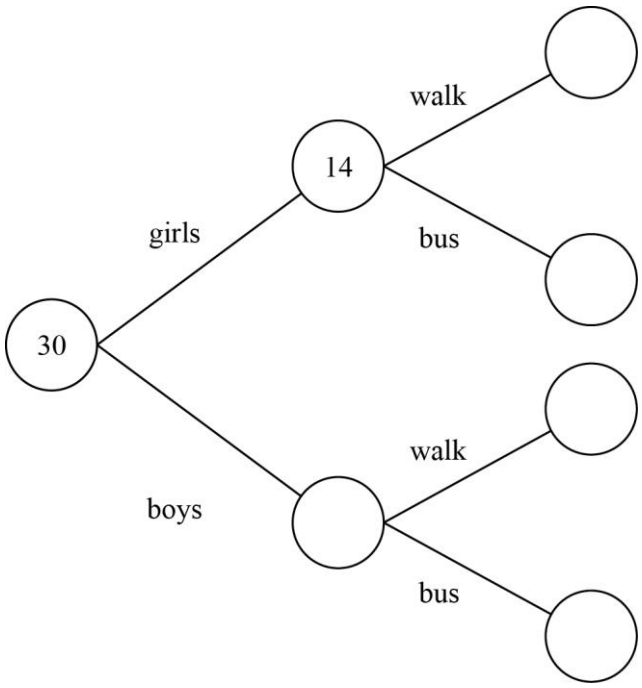
(2 marks)

6th

7 There are 30 children in a class who either walk to school, or take the bus to school.

14 of the children are girls.

10 of the 16 children who take the bus to school are boys.



a Fill in the frequency tree.

(2 marks)

b Work out the probability that a child chosen at random is a girl who walks to school.

(2 marks)

7th

9 R and T are two mutually exclusive events.

P(R) = 0.2 and P(R or T) = 0.69

Work out P(not T).

(2 marks)

7th

11 Billy has a fair, 4-sided spinner numbered 1, 2, 3, 4.

He also has a fair, 5-sided spinner numbered 1, 2, 3, 4, 5.

Billy spins both spinners and adds the numbers the spinners land on to get a total.

Find the probability that the total is a multiple of 3.

(3 marks)

6th

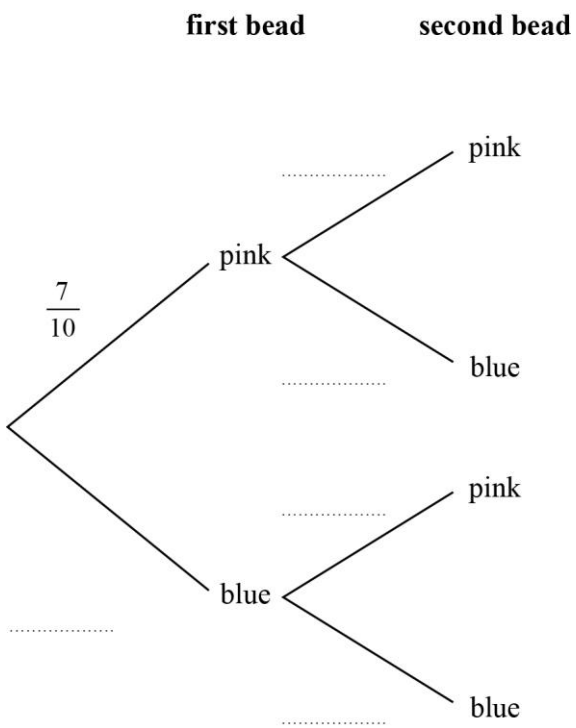
13 A bag contains only pink beads and blue beads.

There are seven pink beads and three blue beads in the bag.

Esther takes, at random, a bead from the bag.

She notes its colour and places it back in the bag.

Esther then takes, at random, another bead.



13a Complete the tree diagram.

(2 marks)

13b Work out the probability that Esther takes two beads of different colours.

(3 marks)

15 There are 15 biscuits in a tin.

Eight of the biscuits are plain.

Two of the biscuits are chocolate.

The rest of the biscuits are lemon.

Benita takes, at random, two biscuits from the tin.

Find the probability that the biscuits are **not** of the same type.

(4 marks)

Overall mark	/