

Frequency Trees

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You **can** use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

1 The table shows a group of students different eye and hair colours.

(Level 4)

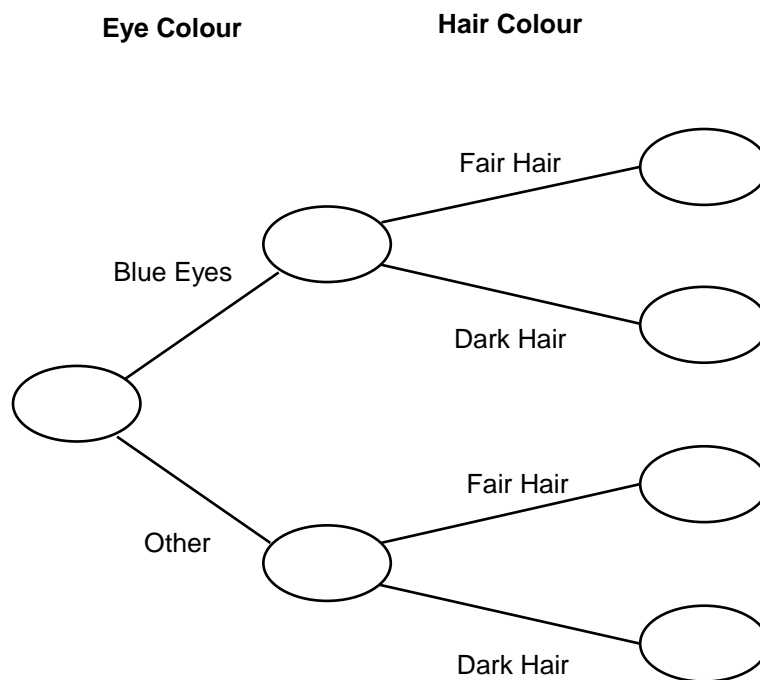
	Fair hair	Dark hair	Total
Blue eyes	8		13
Other		10	
Total	15	15	

1(a) Complete the table above.

[3 marks]

1(b) Use the table to complete the frequency tree below.

[3 marks]

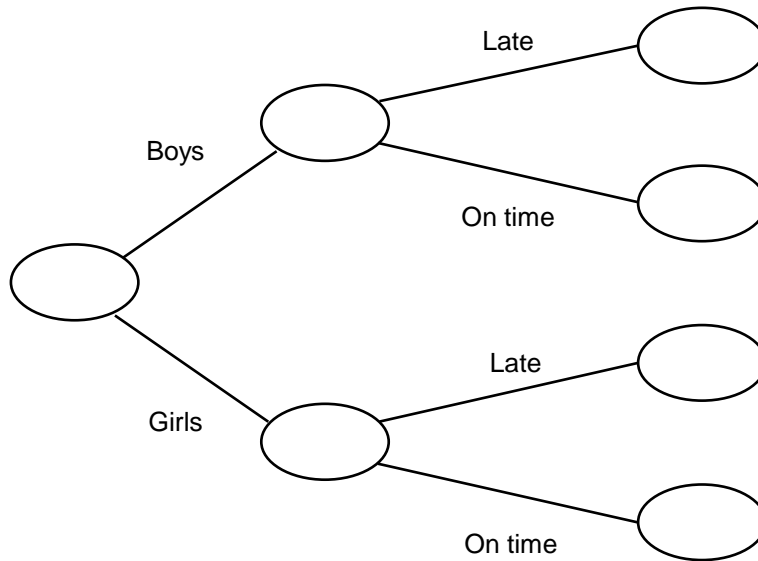


Turn over for next question

- 2** There are 150 pupils in Year 8, 85 of the pupils are boys, the rest are girls. (Level 4)
 14 of the boys were late to school on Monday.
 8 girls who were late to school on Monday.

- 2(a)** Use the information above to complete the frequency tree below.

[4 marks]



- 2(b)** A pupil is chosen at random.
 Find the probability they are a girl that arrived on time.
 Give your answer as a fraction in its simplest form.

[1 mark]

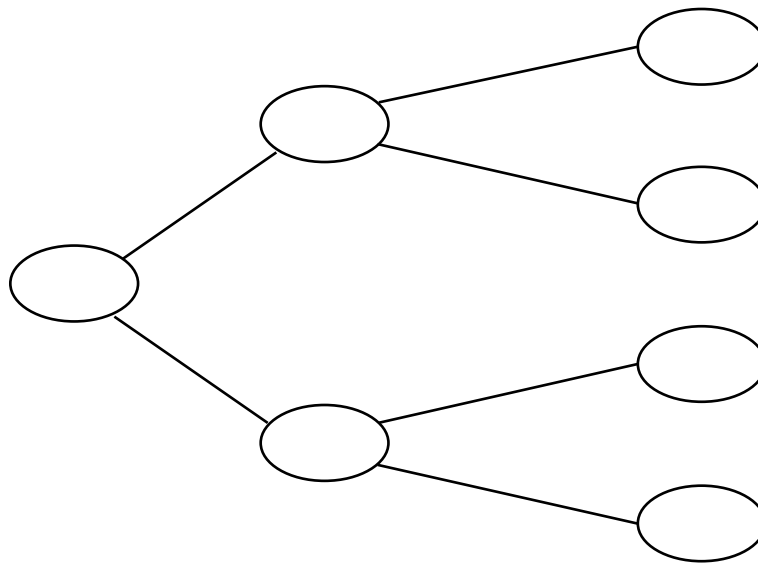
Answer _____

Turn over for next question

3 There are 100 members in a local diving club. (Level 4)
 45 of the members are male, the rest are female.
 13 of the female members are under 17, the rest are 17 or over.
 $\frac{3}{5}$ of the males are under 17, the rest are 17 or over.

3(a) Use the information above to complete the frequency tree.
 Ensure you label each section correctly.

[5 marks]



3(b) What percentage of the members are under 17? [2 marks]

Answer _____ %

Turn over for next question

Turn over ►

4

There are 200 pupils in a 6th form.

(Level 4)

In the 6th form there are two year groups: lower sixth and upper sixth.

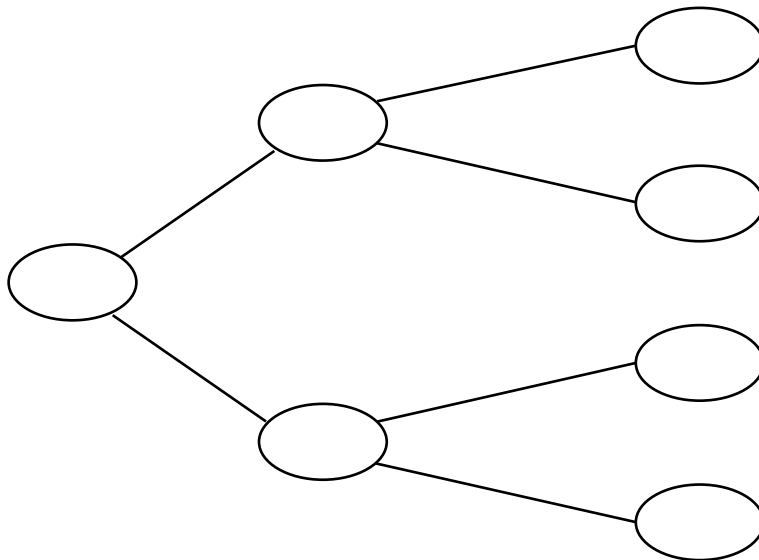
There are 120 pupils in lower sixth.

The ratio of male to female pupils in lower sixth is 5:7

45% of the upper sixth pupils are female.

Use the information above to complete the frequency tree.

Ensure you label each section correctly.

[6 marks]

Turn over for next question

Turn over ►

5 Over 1 weekend, 400 people go to the cinema. (Level 5)

The cinema sells two different types of ticket:

Standard Tickets for £5.00

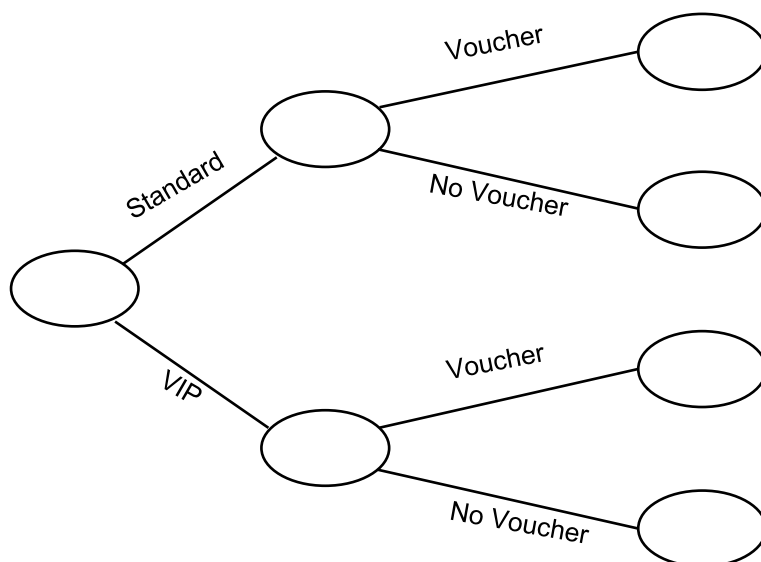
VIP Tickets for £7.00

140 people bought VIP tickets.

80 people used a 10% off voucher for their tickets.

One fifth of the VIP ticket holders used the voucher.

5(a) Use the information above to complete the frequency tree. [4 marks]



5(b) Calculate how much money the cinema made in ticket sales that weekend. [4 marks]

Answer _____

- 6 345 GCSE students are asked to pick one language out of French, Spanish or Italian. (Level 5)

French has 30 more students than Spanish

Italian was picked by half as many students that chose French

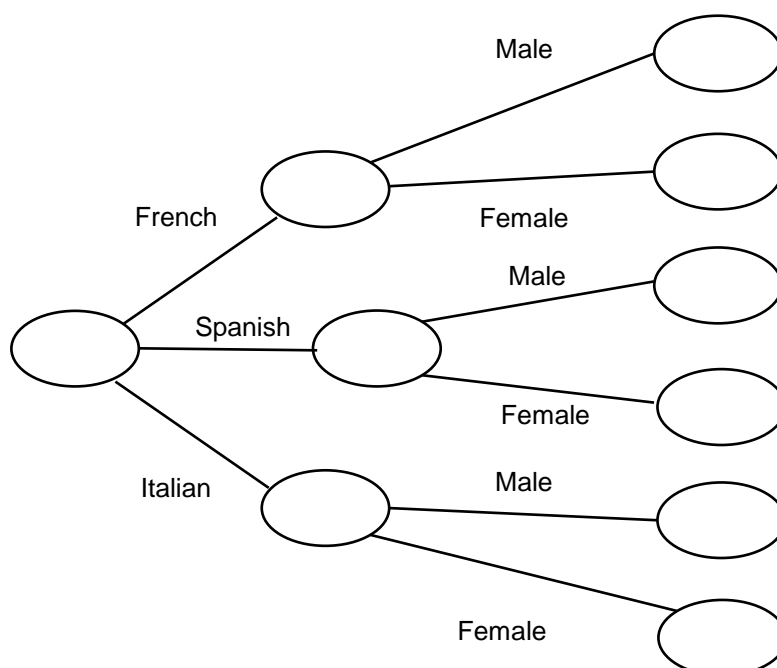
$\frac{2}{3}$ of those studying French are female.

55% of those studying Spanish are male.

The ratio of male to female that study Italian is 2:1.

- 6(a) Use the information above to complete the frequency tree.

[4 marks]



- 6b) How many of the GCSE students are male?

[1 mark]

Answer _____