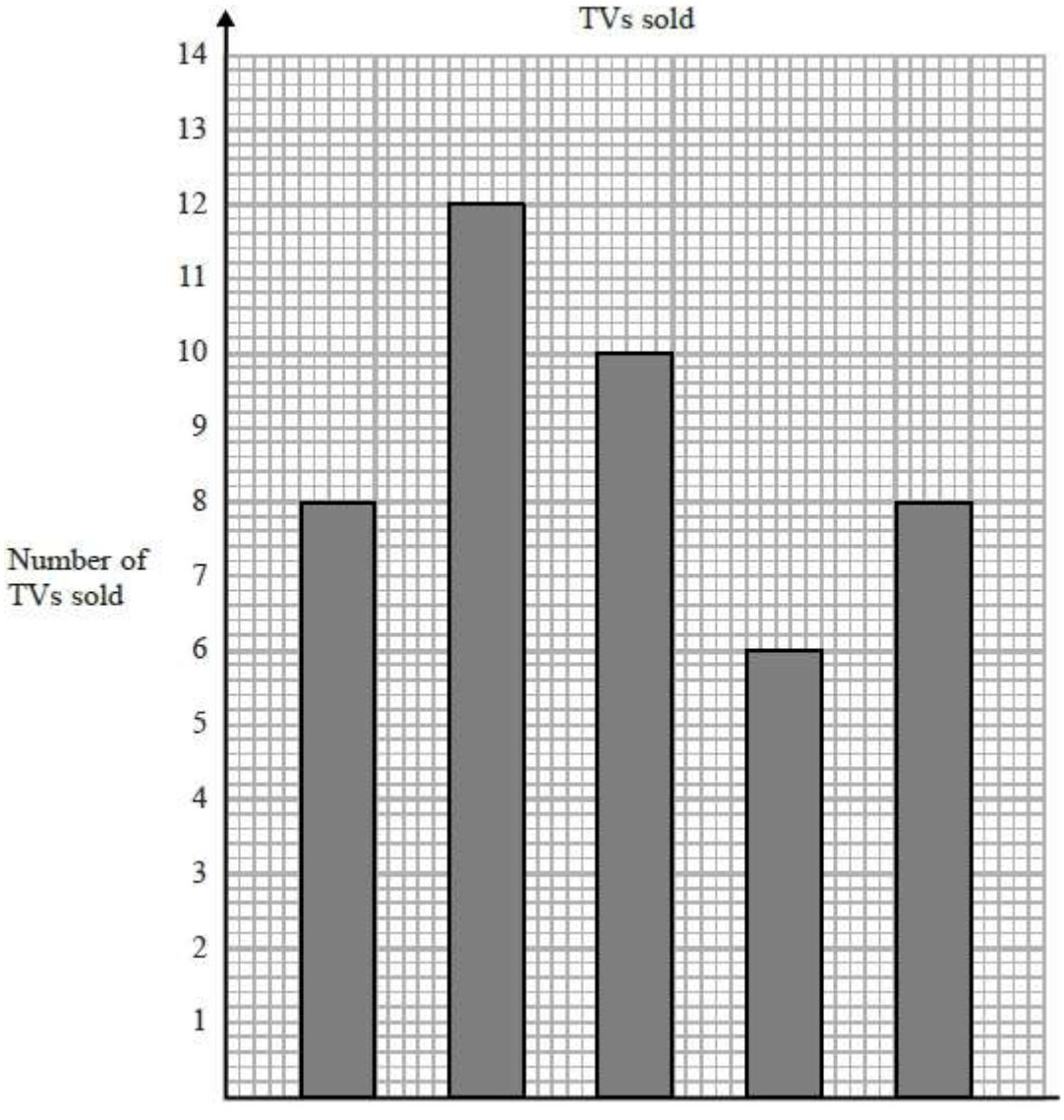
FULL MODEL ANSWERS

Q1. NON-CALCULATOR

The table shows the number of TVs sold in a shop on each of five days.

Day	Mon	Tue	Wed	Thu	Fri
Number of TVs sold	8	12	9	6	8

David uses this information to draw the graph below.



Write down **three** things wrong with this graph.

1 No category labels at the bottom.

2 Wednesday is drawn as 10 but should be 9.

3 The number 0 is missing from the side axis.

(Total for question = 3 marks)

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Q2. NON-CALCULATOR

Here are the ages of 16 men.

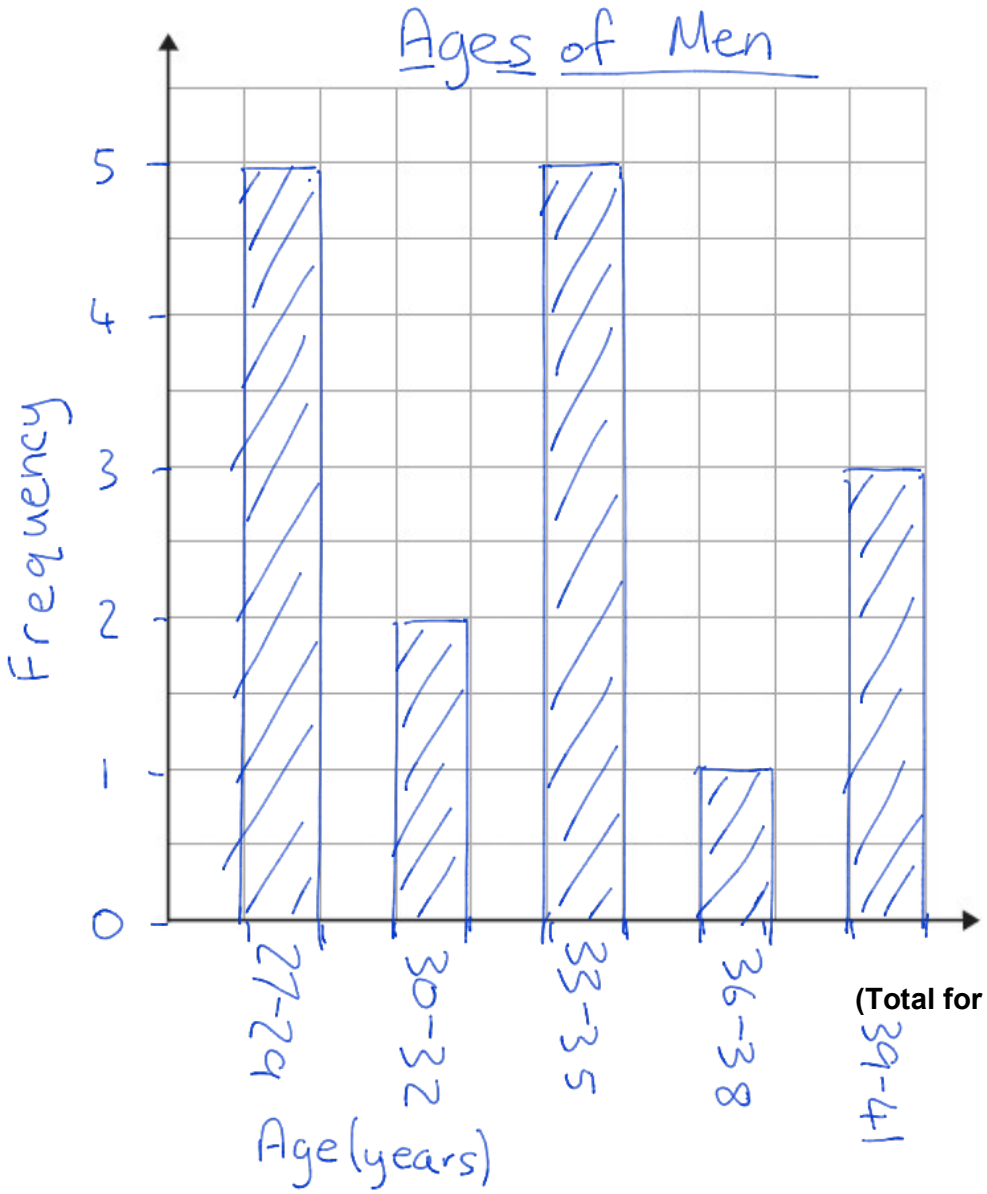
28	30	40	37	35	31	29	39
34	33	35	28	40	29	27	35

(a) Complete the table to show this information.

Age	Tally	Frequency
27–29	HH	5
30–32	II	2
33–35	HH	5
36–38	I	1
39–41	III	3

(2)

(b) On the grid, draw a suitable diagram or chart for the information in the table.



(3)

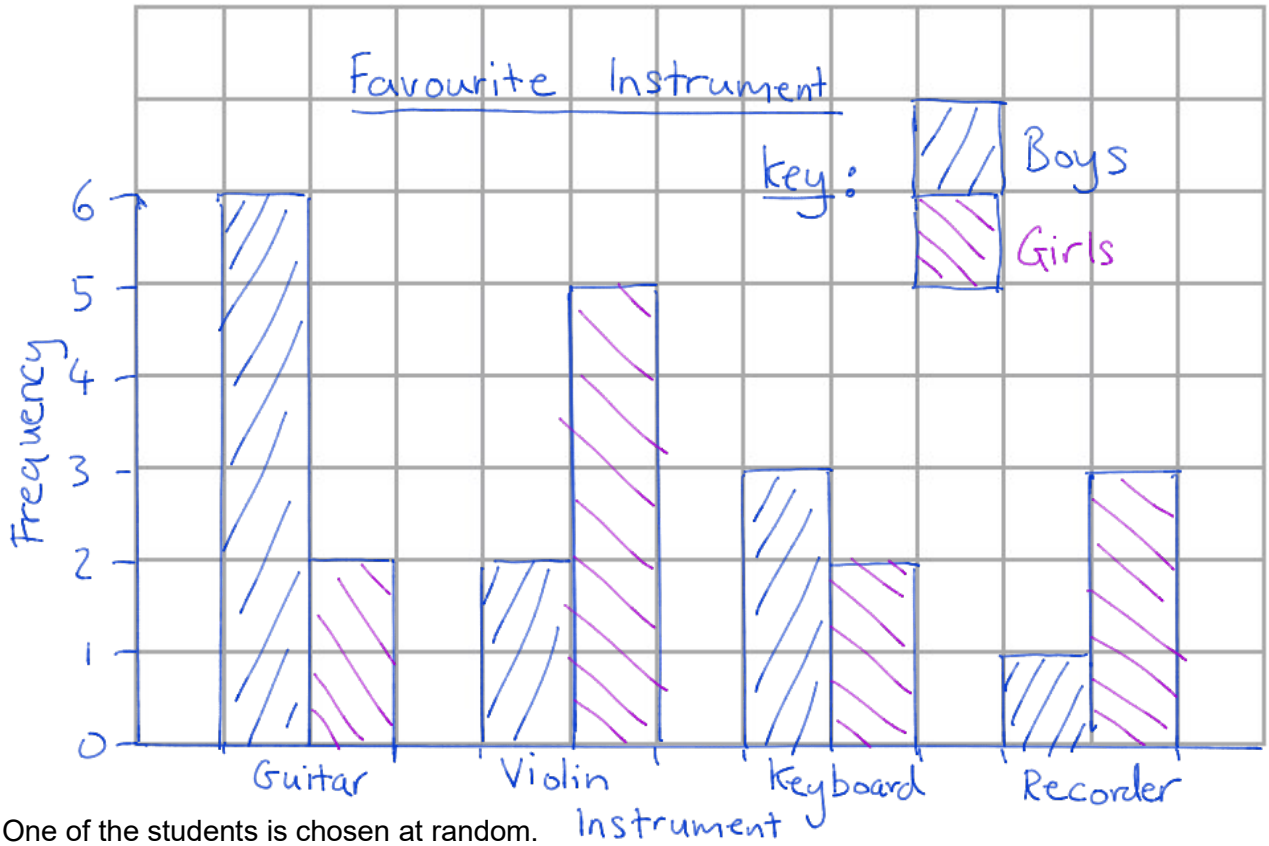
(Total for question = 5 marks)

Q3. NON-CALCULATOR

The table shows information about the favourite instrument played by each of 24 students.

Instrument	Number of boys	Number of girls
guitar	6	2
violin	2	5
keyboard	3	2
recorder	1	3

(a) On the grid below, draw a suitable diagram to show this information.



(4)

One of the students is chosen at random.

(b) What is the probability that this student's favourite instrument is **not** the recorder?

$$P(\text{not recorder}) = 1 - P(\text{recorder})$$

$$= 1 - \frac{\text{number of recorders}}{\text{total frequency}}$$

$$= 1 - \frac{4}{24}$$

$$= 1 - \frac{1}{6}$$

$\frac{5}{6}$

.....

(2)

(Total for question = 6 marks)

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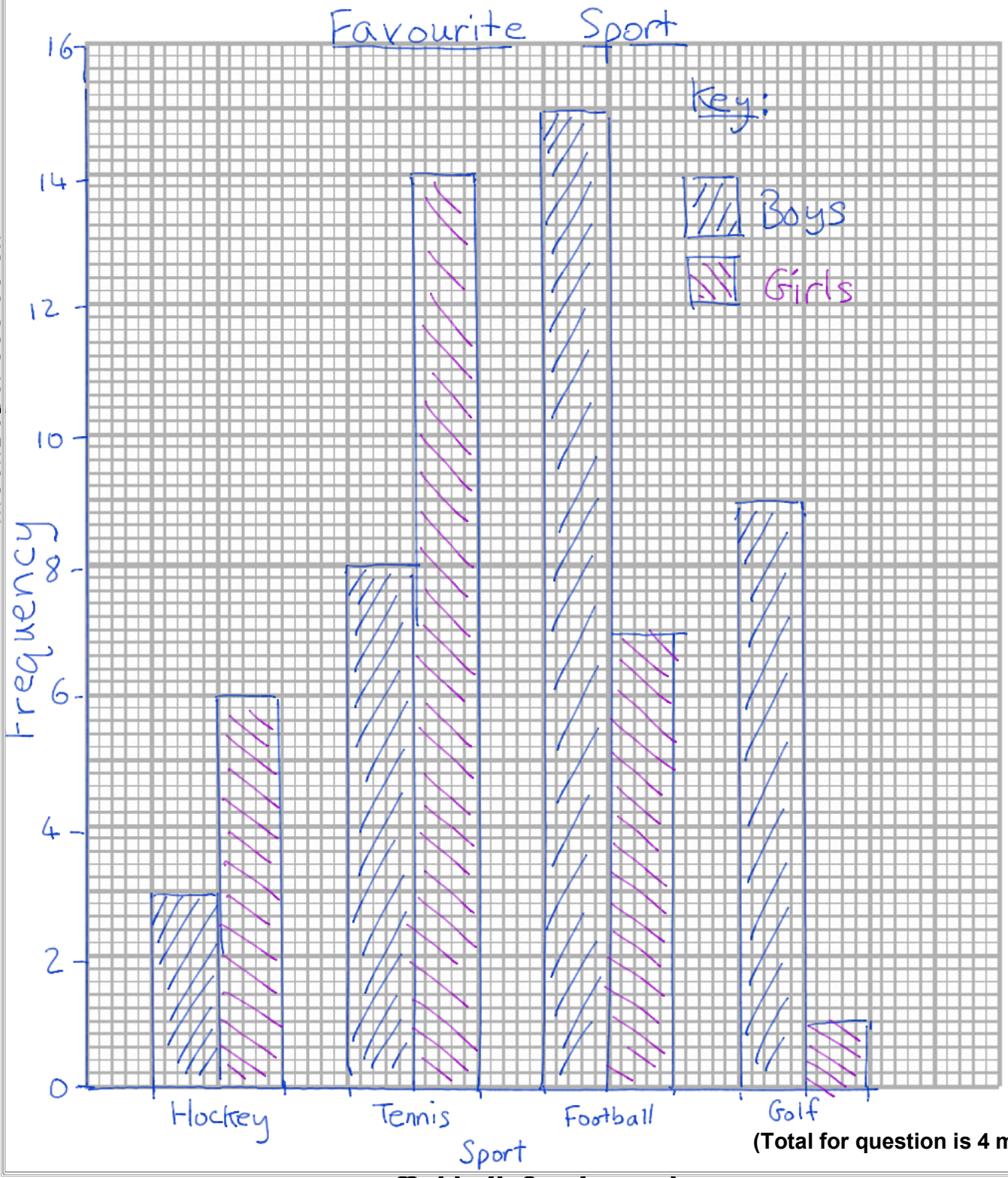
Q4. NON-CALCULATOR

The table shows information about the sports some students like best.

	Hockey	Tennis	Football	Golf
Boys	3	8	15	9
Girls	6	14	7	1

Draw a suitable diagram or chart for this information.

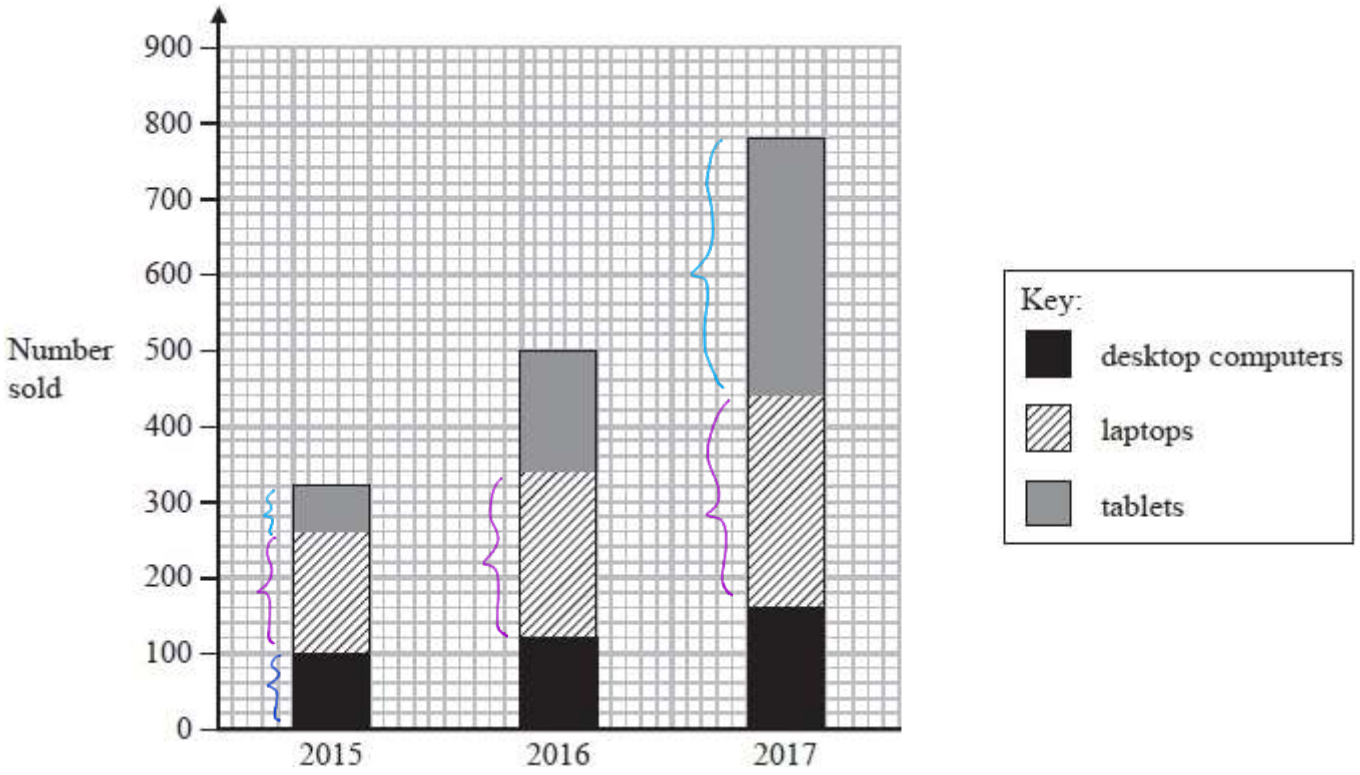


(Total for question is 4 marks)

Q5. NON-CALCULATOR

A shop sells desktop computers, laptops and tablets.

The composite bar chart shows information about sales over the last three years.



(a) Write down the number of desktop computers sold in 2015

100

(1)

(b) Work out the total number of laptops sold in the 3 years.

160 + 220 + 280

660

(3)

(c) State the item that had the greatest increase in sales over the 3 years. Give a reason for your answer.

Tablets increased the most. They increased more than 5-fold from 60 in 2015 to 340 in 2017. They went from worst-selling to best-selling.

(2)

Alex says, "In 2017, more tablets were sold than desktop computers. This means the shop makes more profit from the sale of tablets than from the sale of desktop computers."

(d) Is Alex correct? You must justify your answer.

Since each product may have a different profit margin, Alex is not necessarily right. We don't have enough information on the chart.

(1)

(Total for question = 7 marks)

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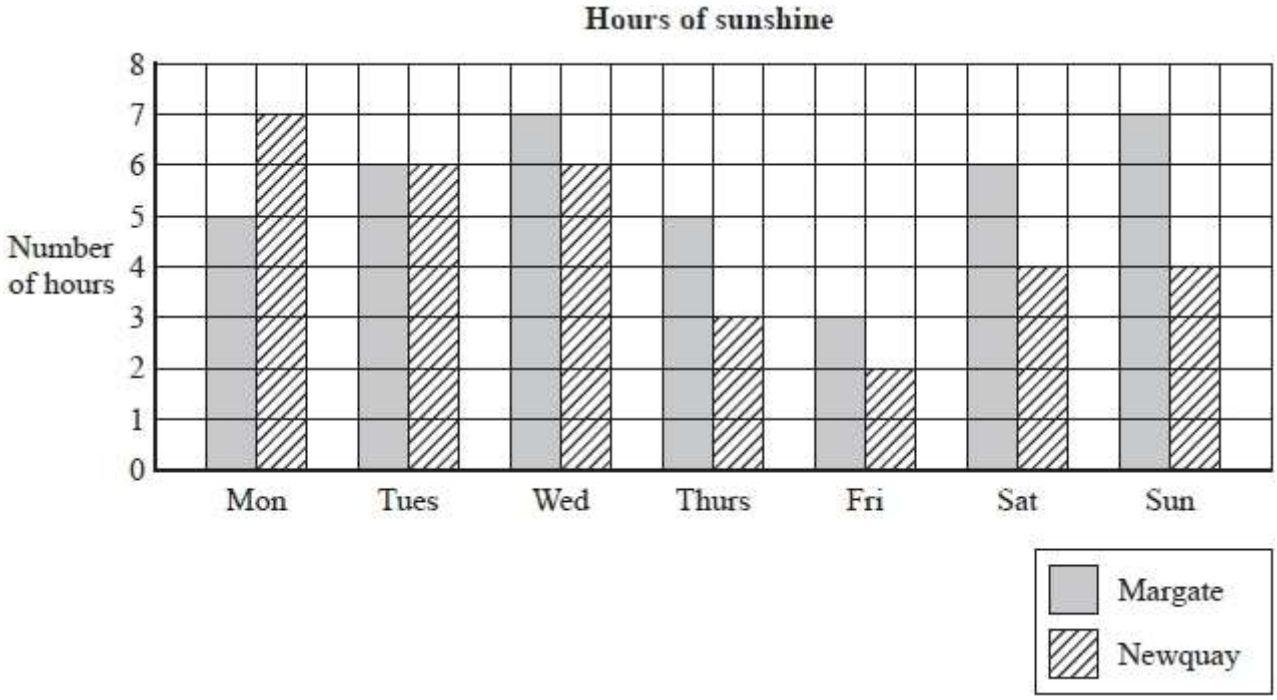
Q6. CALCULATOR ALLOWED

The bar chart shows the number of hours of sunshine each day last week in Margate and in Newquay.



(a) On how many days did Newquay have less than 5 hours of sunshine?

Thursday, Friday, Saturday, Sunday.

4 ..... days

(1)

In total, Margate had more hours of sunshine than Newquay last week.

(b) How many more?

Margate: 5+6+7+5+3+6+7 = 39

Newquay: 7+6+6+3+2+4+4 = 32 -

7 ..... hours

(2)

(Total for question = 3 marks)

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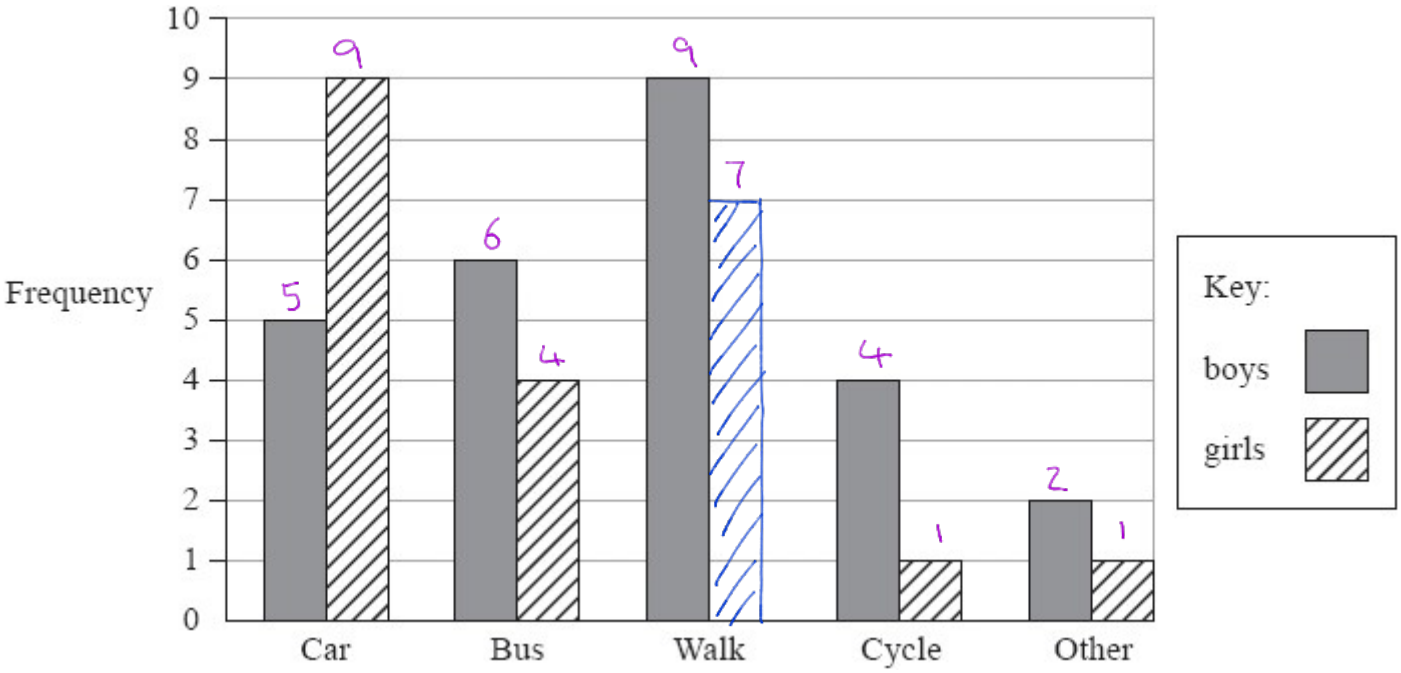
Q7. CALCULATOR ALLOWED

A teacher asks the students in Year 6 what type of transport they use to get to school.
The dual bar chart shows some of the results.



(a) What is the most popular type of transport used by the boys?

Walk

.....

(1)

7 girls walk to school.

(b) Show this information on the dual bar chart.

(1)

More of the students get to school by car than by bus.

(c) How many more?

Car : 5 + 9 = 14

Bus : 6 + 4 = 10

14 − 10

4

.....

(1)

The number of students in Year 5 is the same as the number of students in Year 6

(d) What is the total number of students in Years 5 and 6?

5 + 9 + 6 + 4 + 9 + 7 + 4 + 1 + 2 + 1 = 48

2 × 48

96

.....

(2)

(Total for question = 5 marks)

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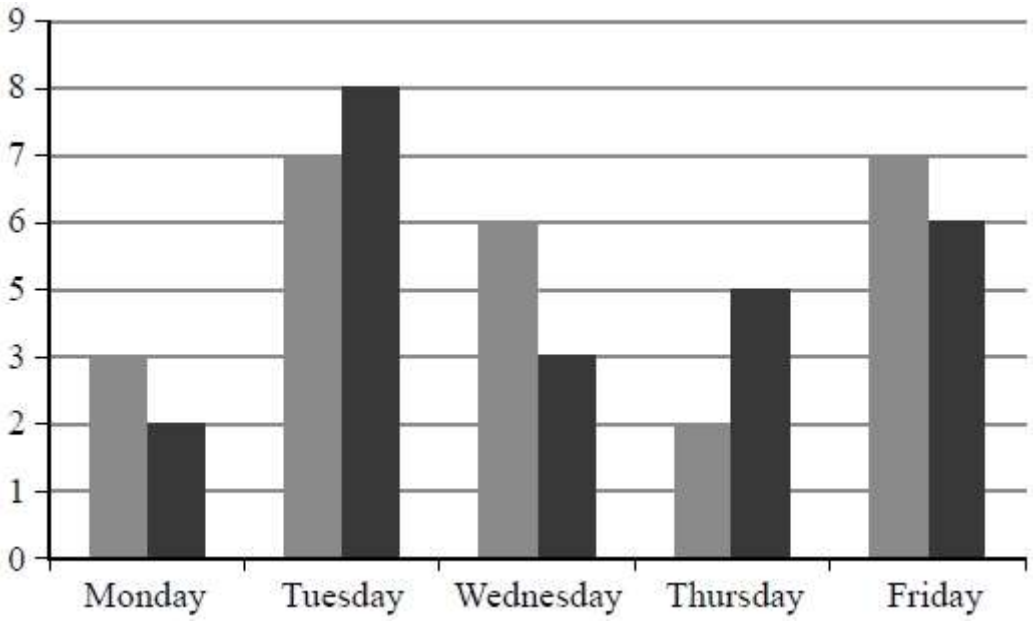
Q8. CALCULATOR ALLOWED

Sam and Max work in a shop from Monday to Friday.

Sam draws a graph to show the number of TVs they each sell.



Write down **three** things that are wrong with this graph.

1

The numbering on the vertical axis is not consistent - 4 is missing

2

There is no key to identify what the 2 colours of bar represent.

3

The y-axis is not labelled. Do the numbers represent frequency?

(Total for question = 3 marks)

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Q9. CALCULATOR ALLOWED

Mrs Brown asked each child in her class which pet they liked best.

Here are her results.

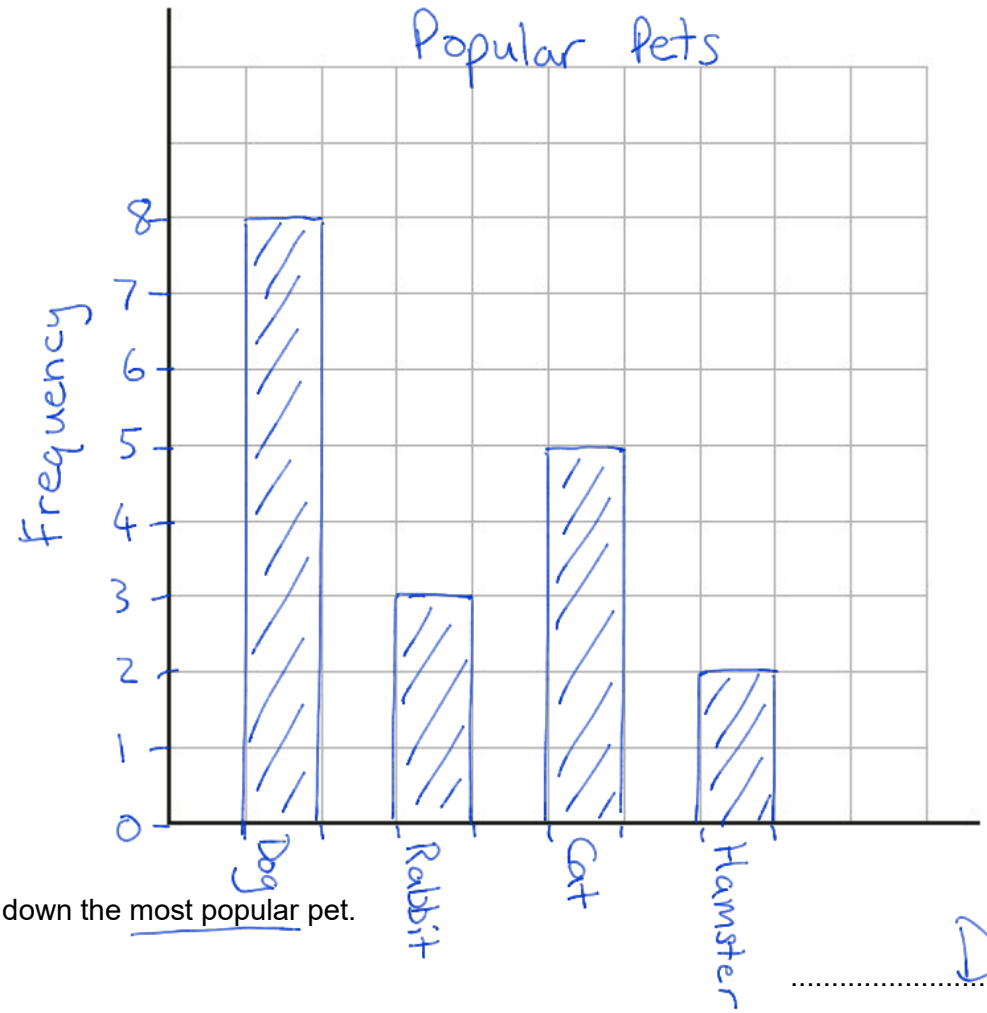
dog	rabbit	cat	dog	dog	hamster
cat	dog	rabbit	hamster	cat	cat
dog	dog	cat	dog	rabbit	dog

(a) Complete the frequency table for this information.

Pet	Tally	Frequency
dog	𝍸 III	8
rabbit	III	3
cat	𝍸	5
hamster	II	2

(2)

(b) On the grid below, draw a bar chart for this information.



(3)

(c) Write down the most popular pet.

Dog

(1)

(Total for question = 6 marks)

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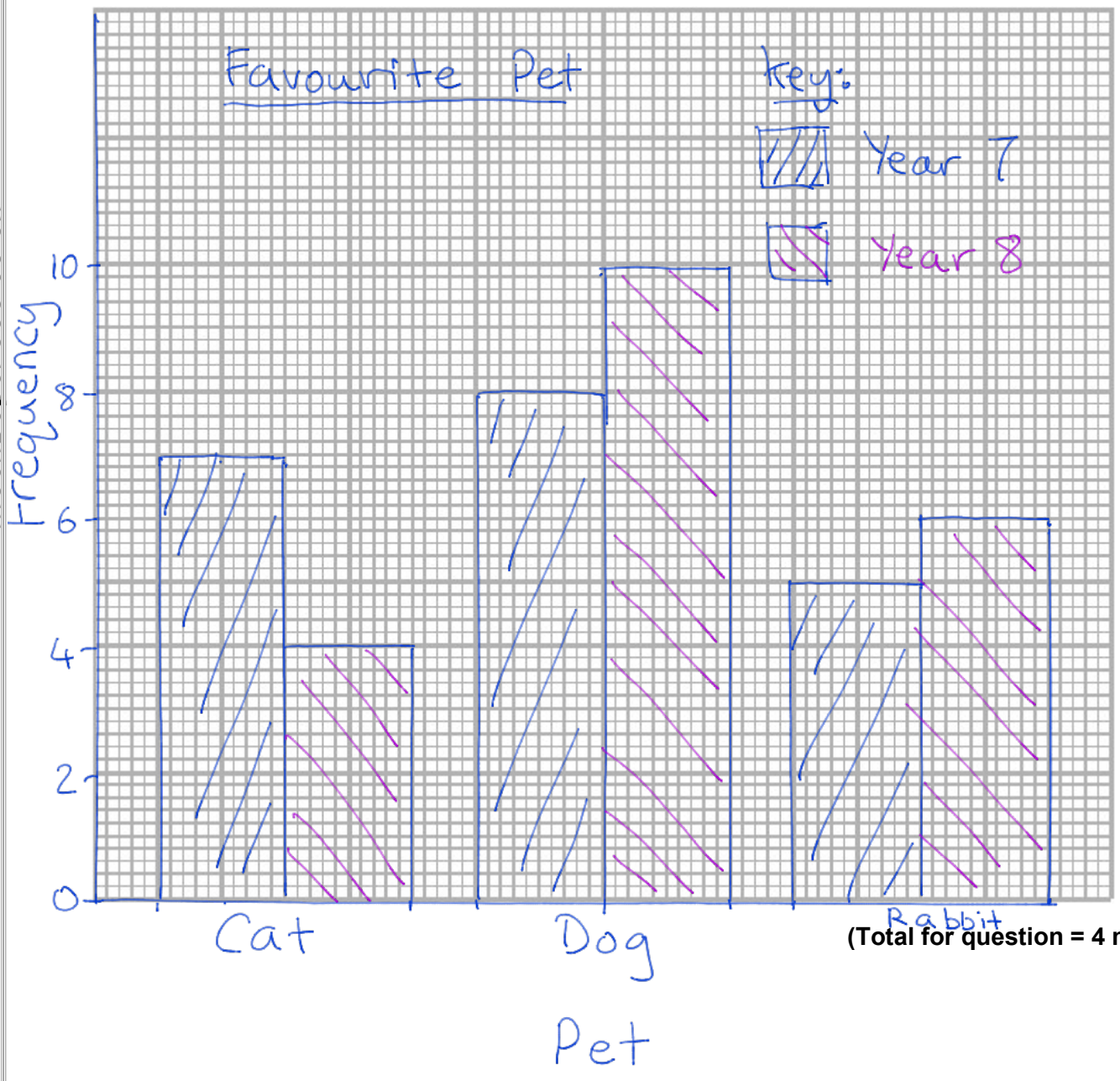
Q10. CALCULATOR ALLOWED

Bruna asked 20 students in each of Year 7 and Year 8 what pet they liked best.

The table gives information about her results.

	Year 7	Year 8
Cat	7	4
Dog	8	10
Rabbit	5	6

Draw a suitable bar chart for this information.



(Total for question = 4 marks)

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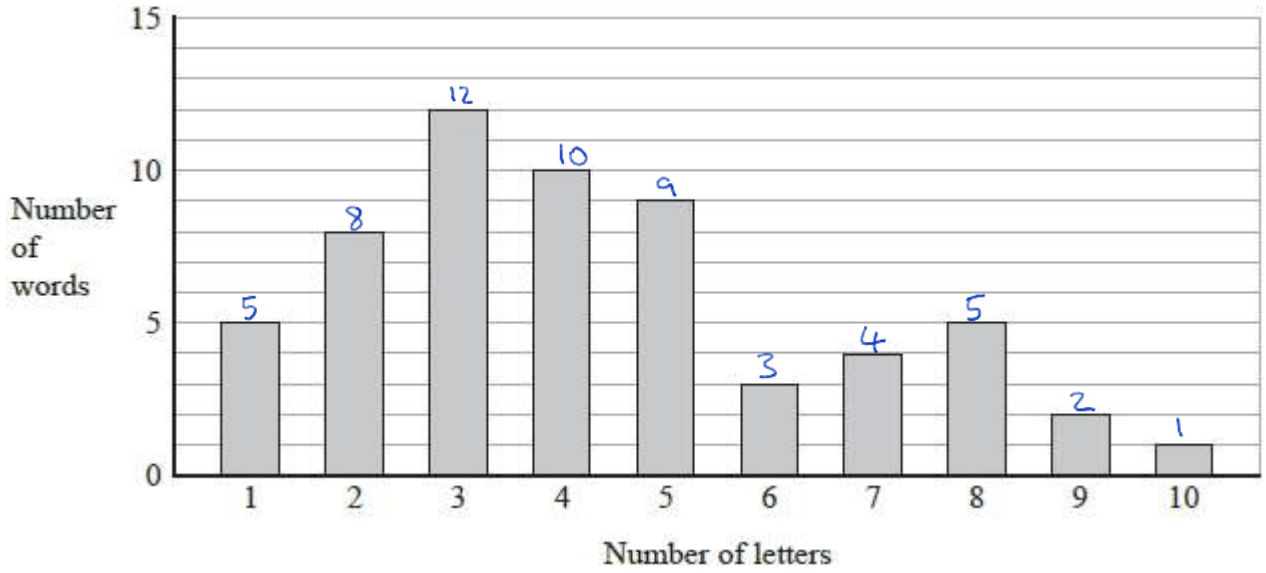
Q11. CALCULATOR ALLOWED

The bar chart shows some information about the number of letters in each word in a paragraph.



(a) What is the modal number of letters in a word?

most common

3

.....

(1)

(b) Work out the range for the numbers of letters in a word.

biggest – smallest

10 – 1

9

.....

(2)

(c) Work out the fraction of the words that have at least six letters.

$$\frac{3+4+5+2+1}{5+8+12+10+9+3+4+5+2+1} \qquad \frac{15}{59}$$

.....

(3)

(Total for question = 6 marks)

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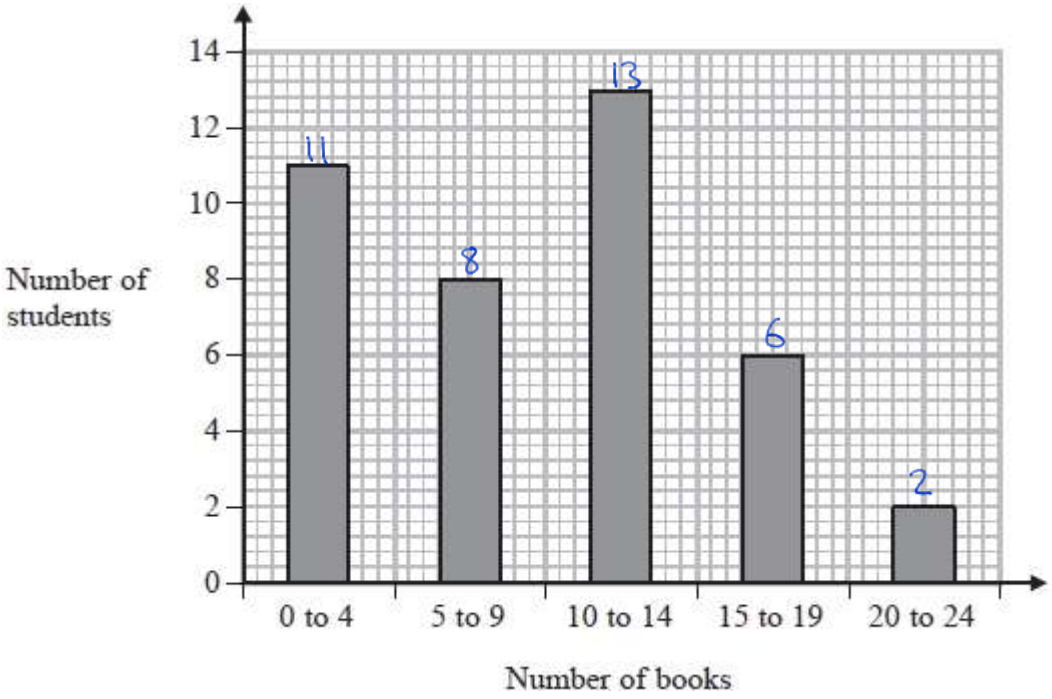
Q12. CALCULATOR ALLOWED

Fran asks each of 40 students how many books they bought last year.

The chart below shows information about the number of books bought by each of the 40 students.



(a) Work out the percentage of these students who bought 20 or more books.

$\frac{2}{40} \times 100\%$

5 ..... %

(2)

(b) Show that an estimate for the mean number of books bought is 9.5

You must show all your working.

Number of books	Frequency	Midpoint	MPx freq
0-4	11	2	22
5-9	8	7	56
10-14	13	12	156
15-19	6	17	102
20-24	2	22	44
	40		380

Mean = $\frac{380}{40} = 9.5$

(4)

(Total for question = 6 marks)