

Name

ANSWERS

Class



[www.MathsTeacherHub.com](http://www.MathsTeacherHub.com)

# Bar charts

**(9 – 1) Topic booklet**

## Foundation

These questions have been collated from previous years GCSE Mathematics papers.

**You must have:** Ruler graduated in centimetres and millimetres, protractor, pair of compasses, pen, HB pencil, eraser.

**Total Marks**

### Instructions

- Use black ink or ball-point pen.
- Fill in the boxes at the top of this page with your name, centre number and candidate number.
- Answer all questions.
- Answer the questions in the spaces provided
  - there may be more space than you need.
- Diagrams are NOT accurately drawn, unless otherwise indicated.
- You must show all your working out.
- If the question is a 1F question you are not allowed to use a calculator.
- If the question is a 2F or a 3F question, you may use a calculator to help you answer.

### Information

- The marks for each question are shown in brackets
  - use this as a guide as to how much time to spend on each question.

### Advice

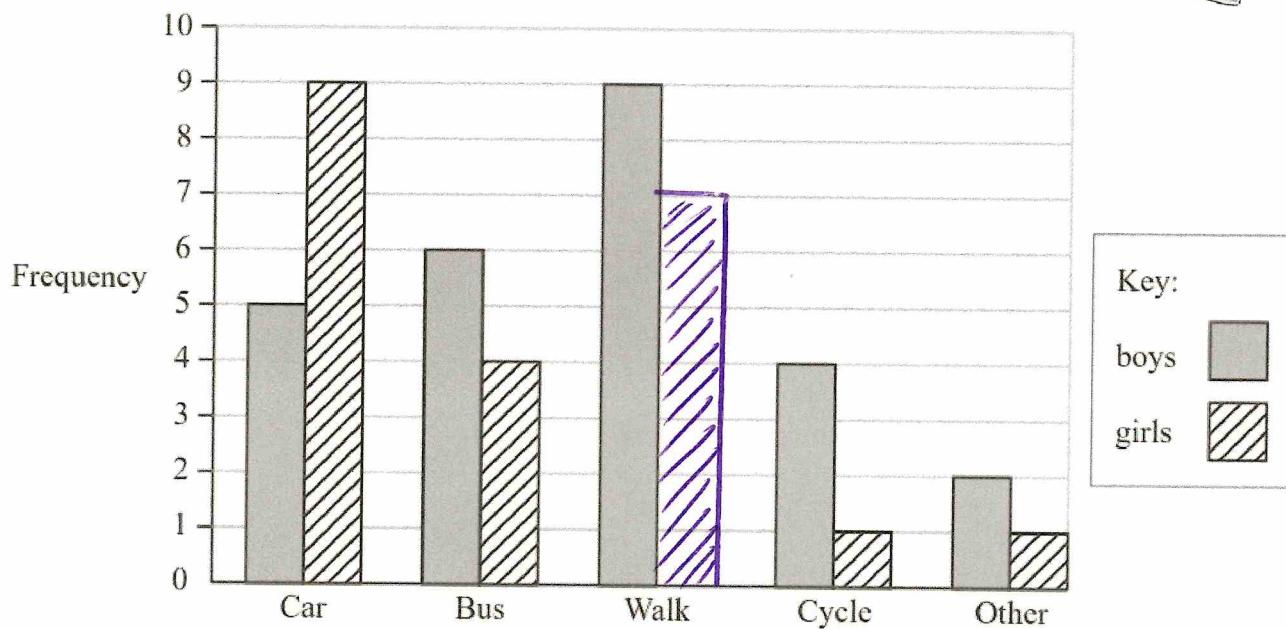
- Read each question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every question.
- Check your answers if you have time at the end.

**Answer ALL questions**

**Write your answers in the space provided.**

**You must write down all the stages in your working.**

3 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?

$$\text{Car} = 9 + 5 = 14$$

$$\text{Bus} = 6 + 4 = 10$$

4

(1)

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

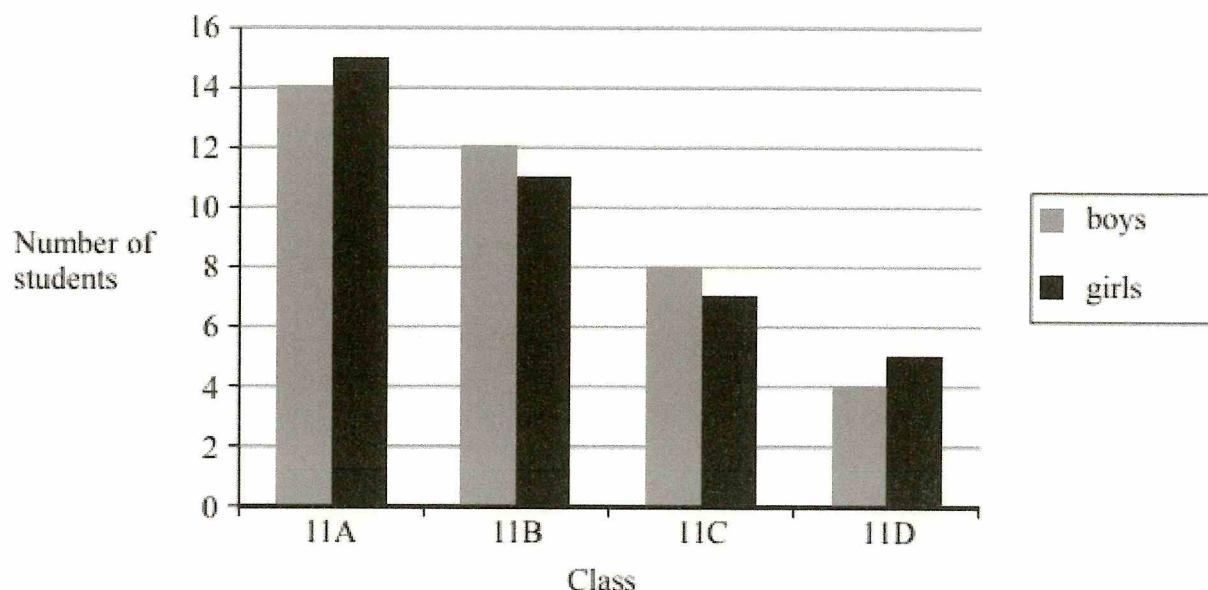
(d) What is the total number of students in Years 5 and 6?

$$\text{Year 6} = 48$$

96

(2)

6 The bar chart gives information about the numbers of students in the four Year 11 classes at Trowton School.



(a) What fraction of the students in class 11A are girls?

$$\frac{15}{29}$$

(2)

Shola says,

“There are more boys than girls in Year 11 in Trowton School.”

(b) Is Shola correct?

You must give a reason for your answer.

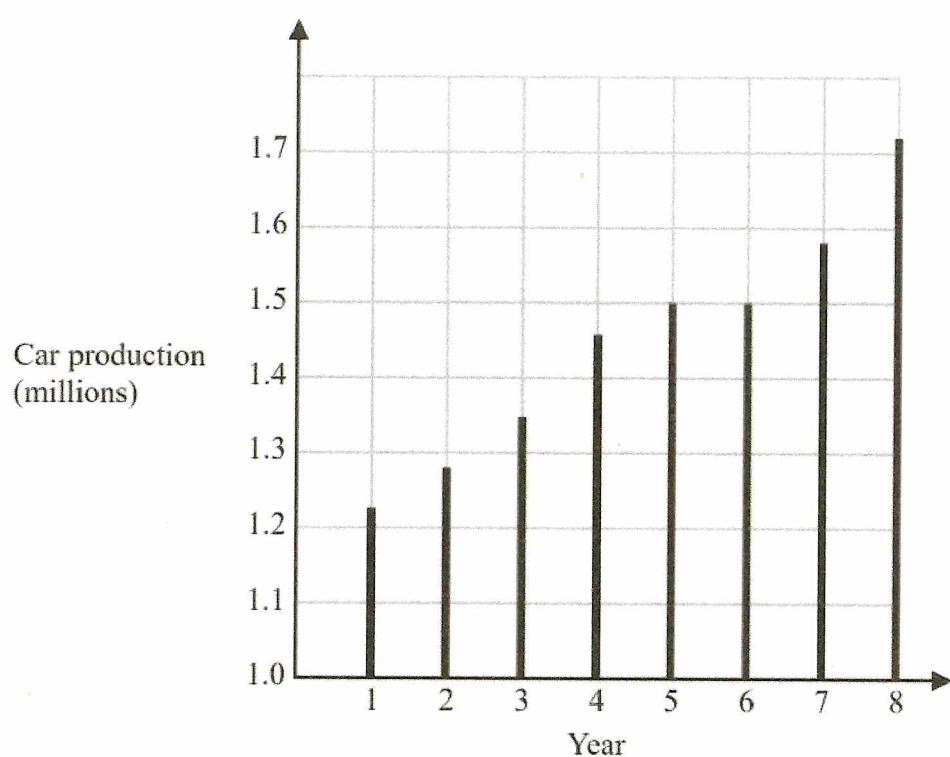
$$\text{Boys} = 14 + 12 + 8 + 4 = 38$$

$$\text{Girls} = 15 + 11 + 7 + 5 = 38$$

Shola is wrong, they are the same.

(2)

6 The graph shows some information about car production in the UK over eight years.



(a) For how many of these years was car production more than 1.4 million?

5

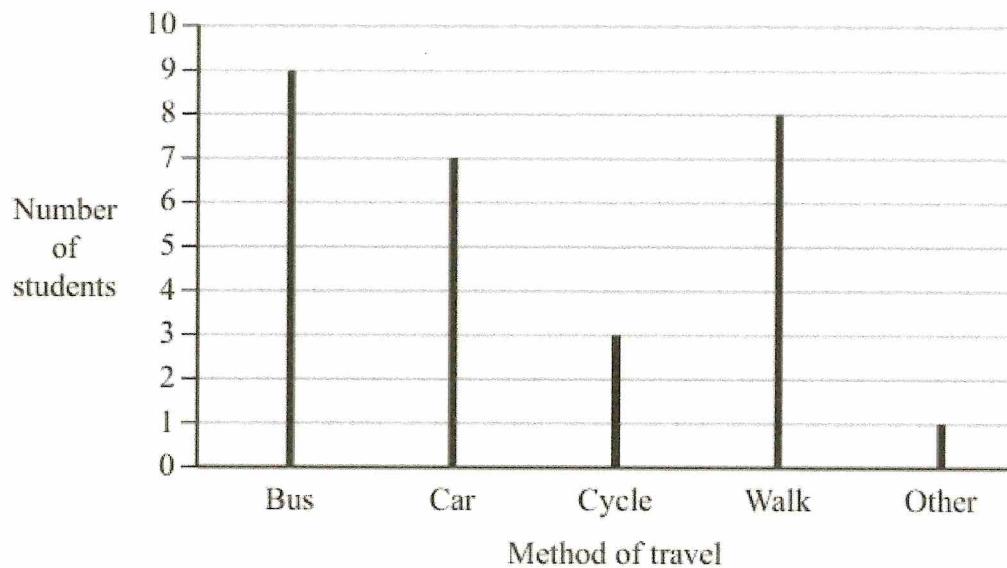
(1)

(b) In which two years was car production the same?

5, 6

(1)

7 Julie asks some students how they travel to school.  
The chart shows her results.



(a) Write down which method of travel is the mode.

Bus

(1)

More students walk to school than cycle to school.

(b) How many more?

Walk = 8

Cycle = 3

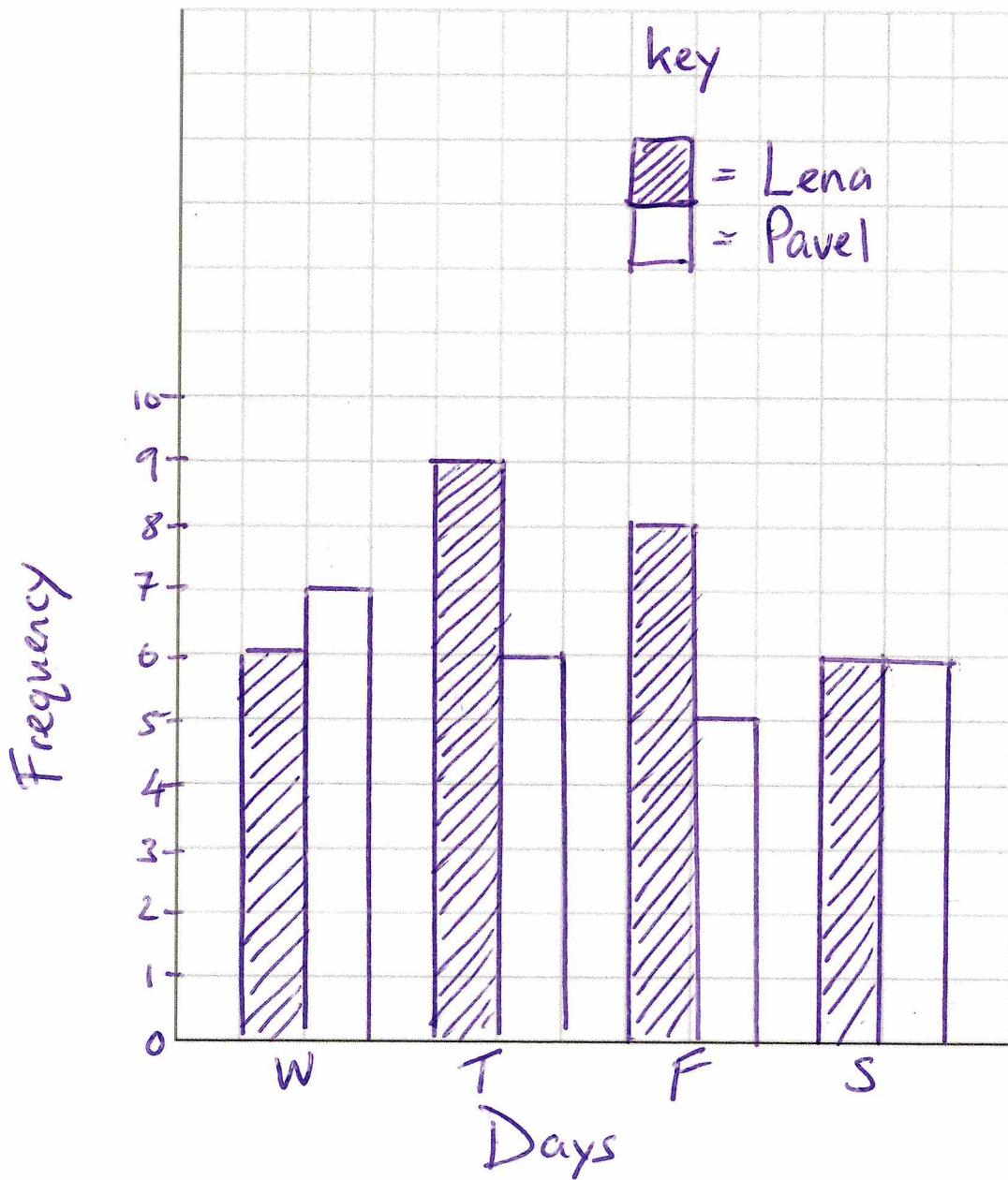
5

(1)

7 The table shows the number of hours that Lena and Pavel worked on each of four days last week.

	Wednesday	Thursday	Friday	Saturday
Lena	6	9	8	6
Pavel	7	6	5	6

On the grid, draw a suitable diagram or chart for this information.



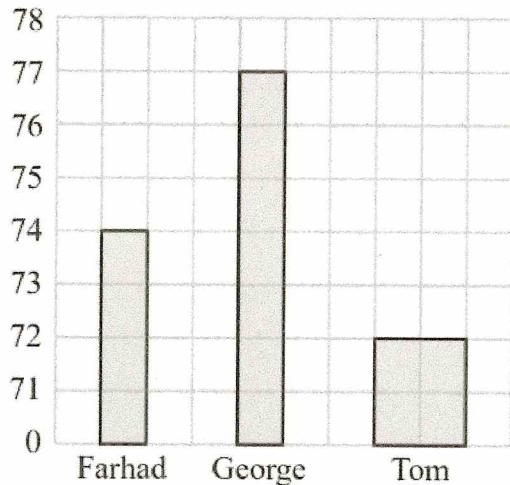
7 Farhad, George and Tom each did a test.

Here are their marks for the test.



Farhad	74
George	77
Tom	72

George drew this bar chart to show the marks they got.  
The bar chart is **not** fully correct.



Write down **two** things that are wrong with George's bar chart.

1 All the bars should have the same width.

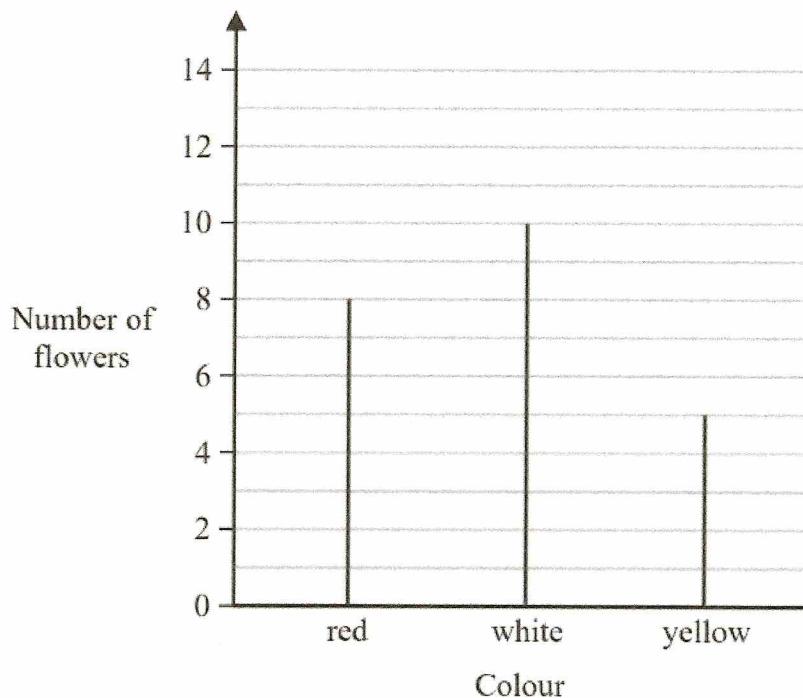
The vertical axis is not labelled "Marks"

2

The scale goes from 0 → 71

7 In Adam's garden, the flowers are only red or white or yellow or blue.

The chart shows the number of red flowers, the number of white flowers and the number of yellow flowers.



The total number of flowers is 30

(a) Work out the number of blue flowers.

$$8 + 10 + 5 = 23$$

$$30 - 23 = 7$$

7

(2)

(b) Write down the mode.

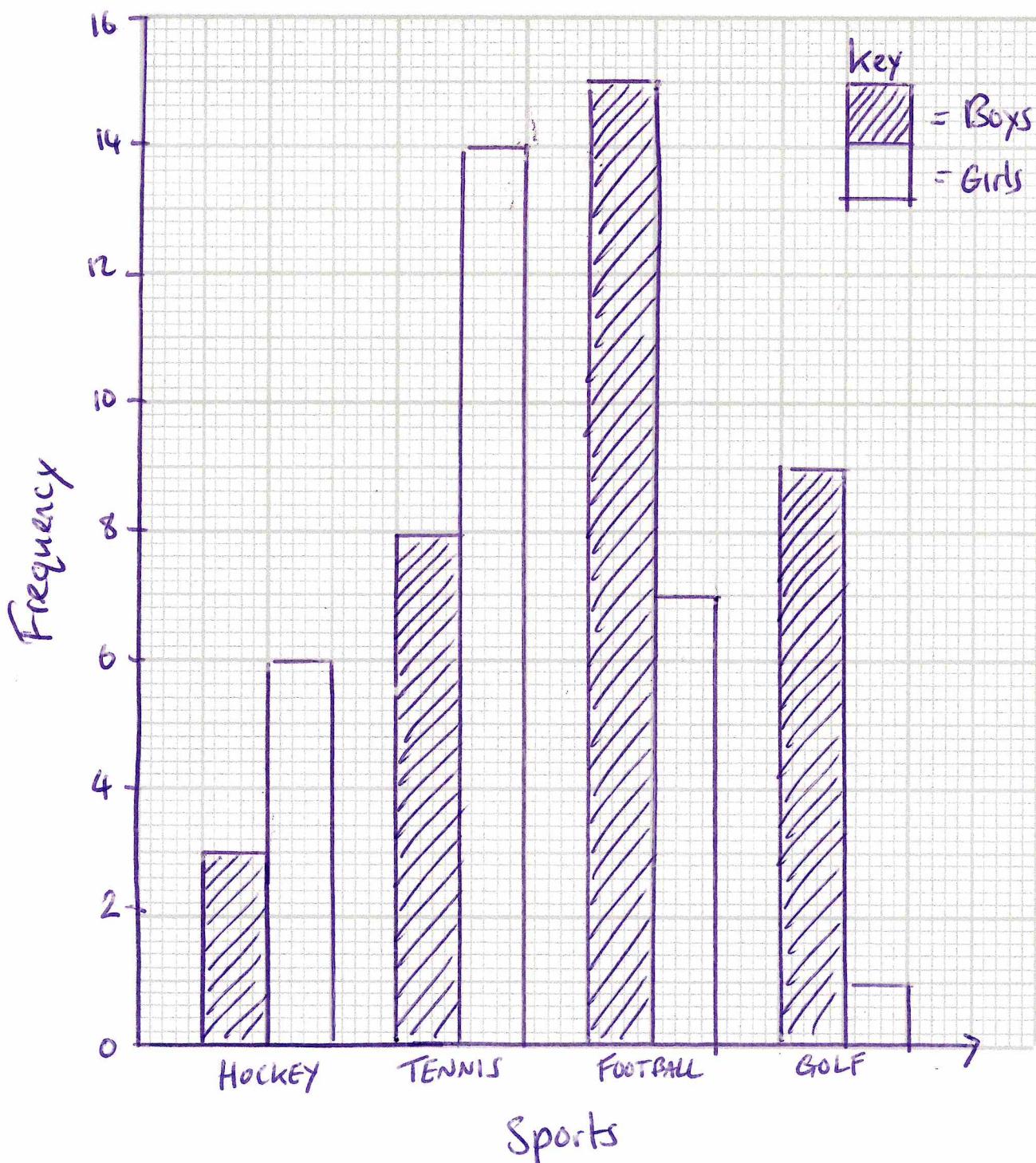
White

(1)

7 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.



8 Miss Bailey asked 24 students where they each wanted to go on a school trip.

Here are the results.

<u>museum</u>	<u>castle</u>	<u>castle</u>	<u>farm</u>
<u>farm</u>	<u>castle</u>	<u>farm</u>	<u>farm</u>
<u>castle</u>	<u>farm</u>	<u>castle</u>	<u>castle</u>
<u>castle</u>	<u>farm</u>	<u>castle</u>	<u>museum</u>
<u>museum</u>	<u>farm</u>	<u>castle</u>	<u>museum</u>
<u>museum</u>	<u>museum</u>	<u>castle</u>	<u>castle</u>

(a) Complete the frequency table.

Place	Tally	Frequency
castle		11
farm		7
museum		6

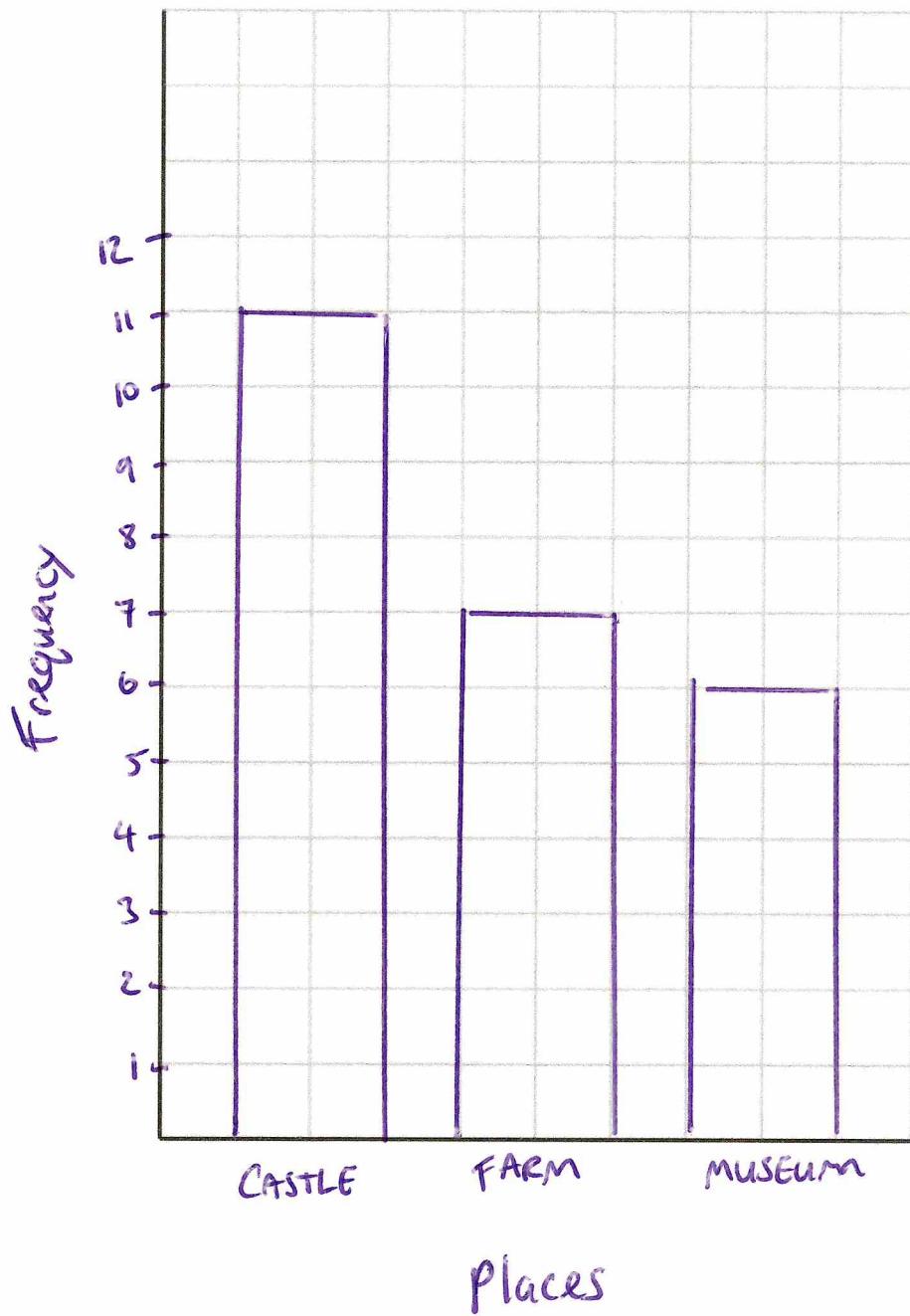
(2)

(b) Write down the place that is the mode.

Castle

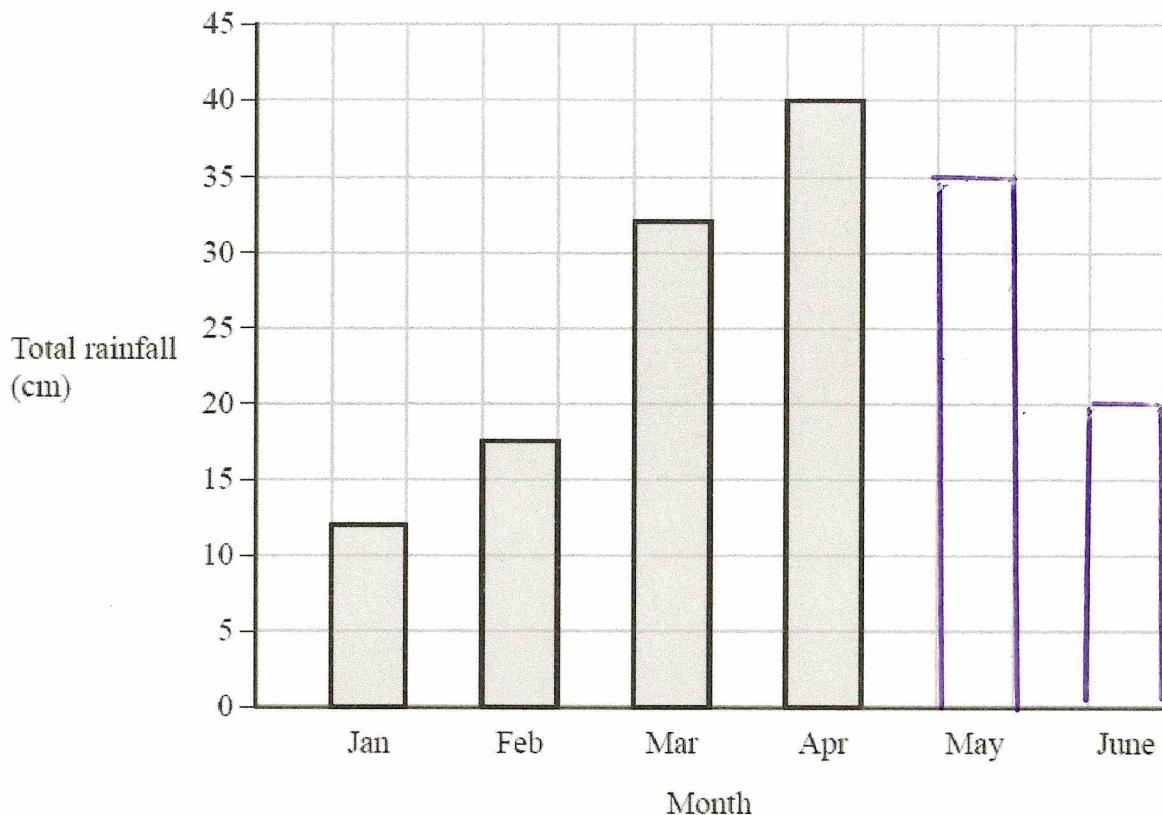
(1)

(c) Draw a bar chart to show the results.



(3)

8 The bar chart shows information about the total rainfall each month for four months in a city.



In May, the total rainfall was 35 cm.

In June, the total rainfall was 20 cm.

(a) Use this information to complete the bar chart.

(2)

Rupa says,

"In February there was 15.5 cm of rainfall because the bar is half a square above 15"

(b) Explain why Rupa is incorrect.

Between 20 and 15 is 17.5

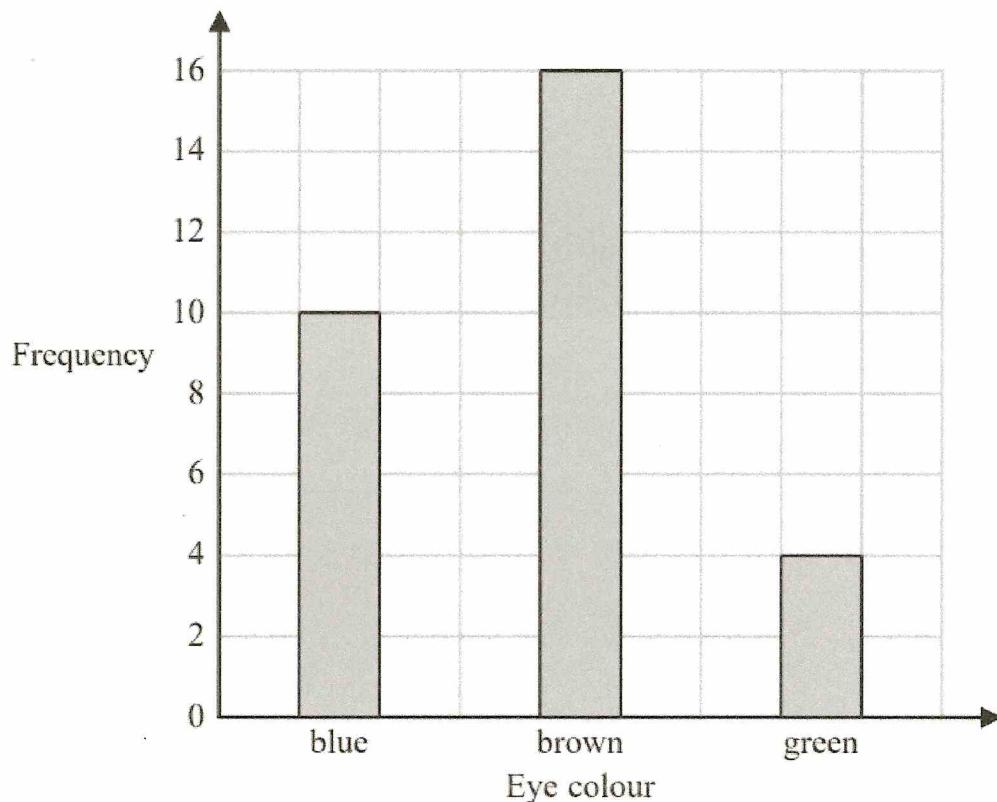
(1)

8 Grace recorded the eye colour of each of the students in her class.

The frequency table below shows her results.

Eye colour	Frequency
blue	10
brown	15
green	4

Grace then drew the bar chart below for this information.



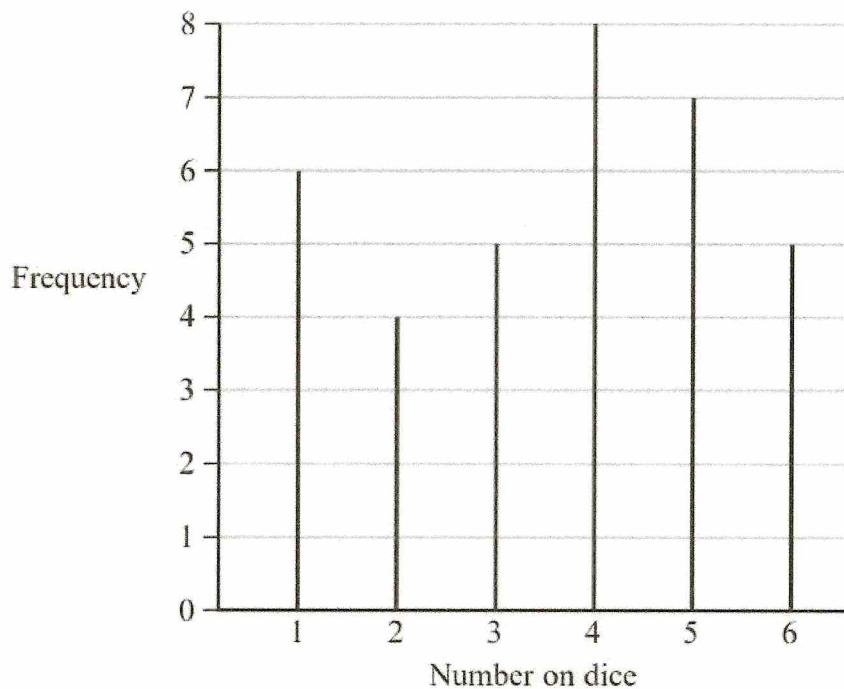
Write down one thing that is wrong with this bar chart.

Brown eyes has been plotted at 16 not 15.

8 5 students throw a dice.

They each throw the dice the same number of times.

The diagram gives information about the number of times the dice lands on each number.



Work out how many times each student throws the dice.

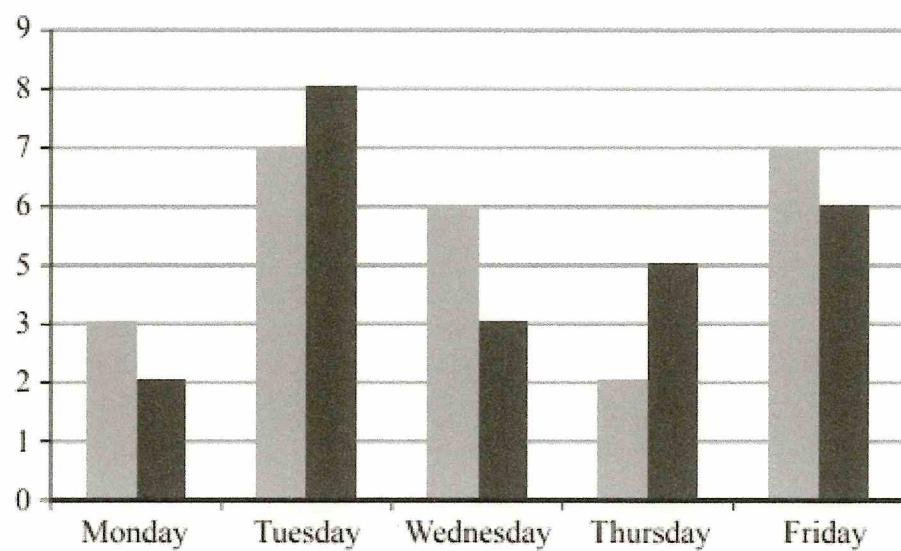
$$6 + 4 + 5 + 8 + 7 + 5 = 35 \text{ throws}$$

$$\frac{35}{5} = 7 \text{ each}$$

7

8 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 4 is missing from the vertical axis.

2 There is no key

3 No labels on the axis.

9 The table shows the number of books read by four people in one month.



Person	Number of books
Ximena	7
Martha	9
Kezia	1
Tabby	5

(a) Work out the median number of books.

1, 5, 7, 9,  
↑

6

(2)

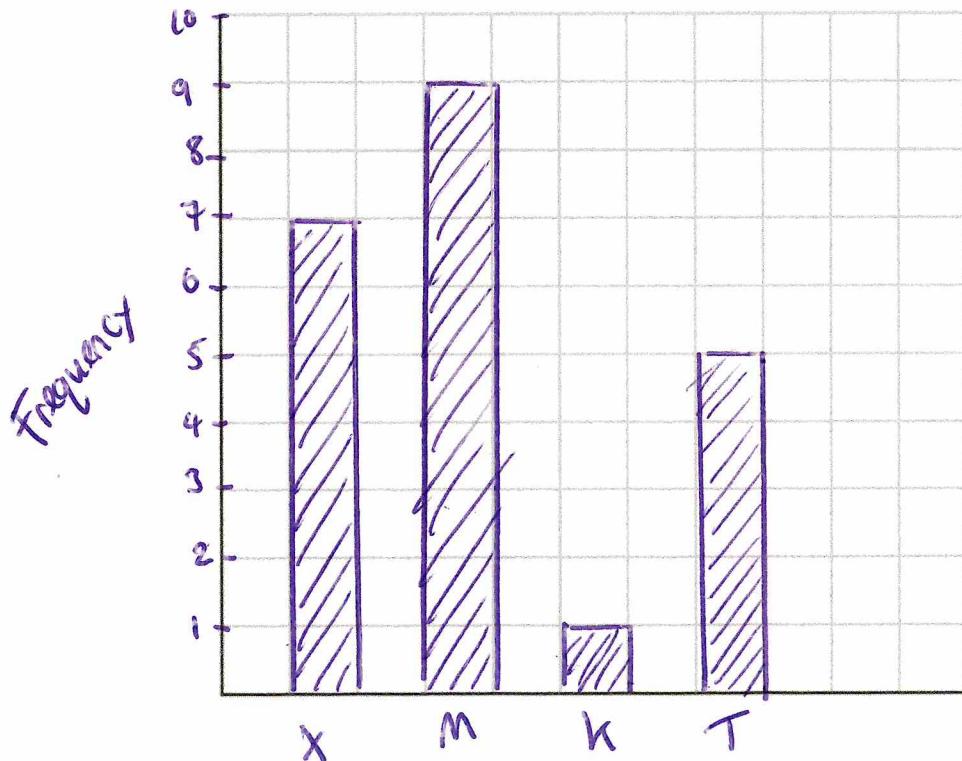
(b) Find the range.

$$9 - 1 = 8$$

8

(1)

(c) On the grid, draw a bar chart to show the information in the table.



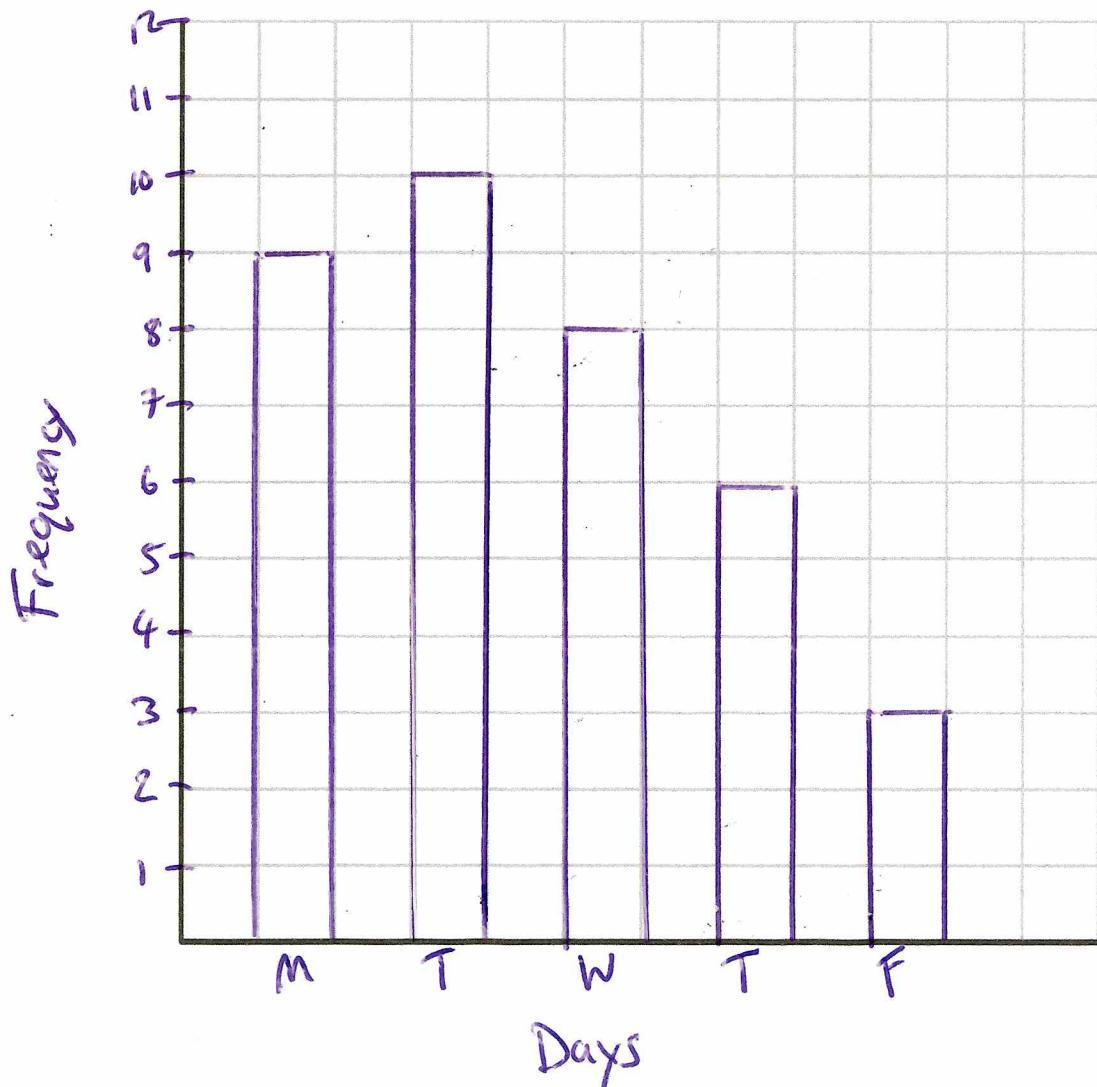
(3)

9 The table shows information about the number of students who arrived late at school each day one week.



	Number of students
Monday	9
Tuesday	10
Wednesday	8
Thursday	6
Friday	3

On the grid, draw a bar chart for this information.



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



Here are her results.

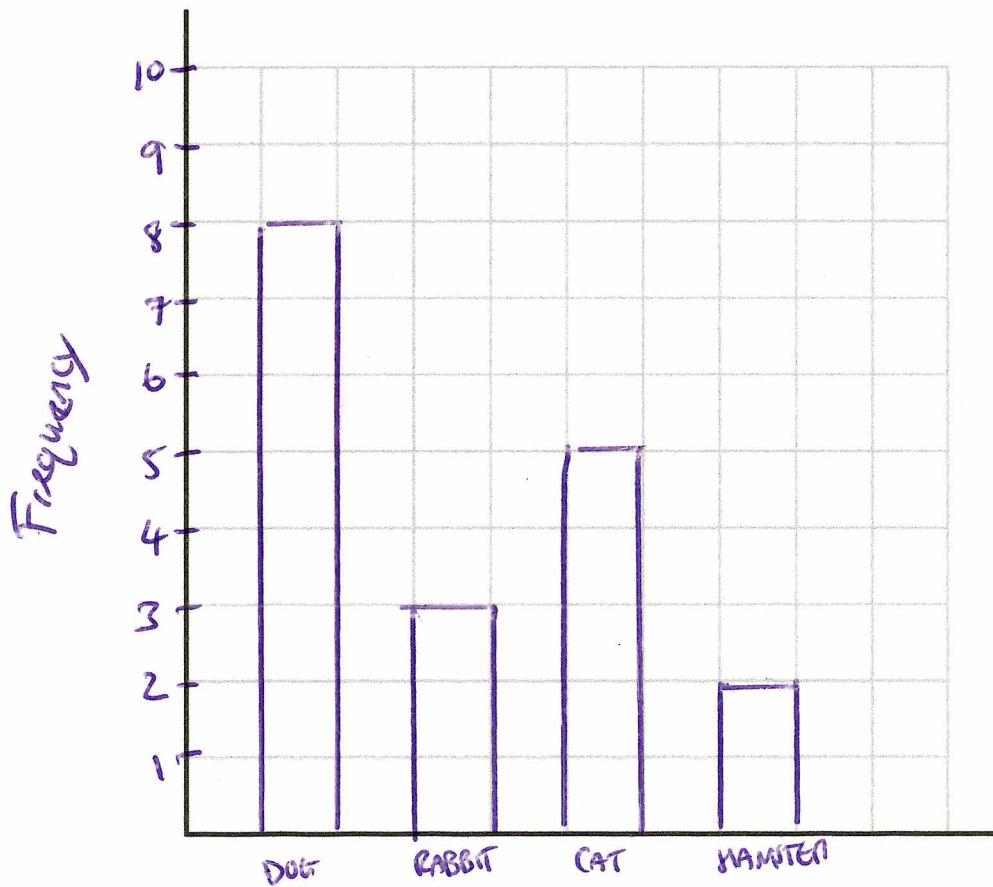
dog      rabbit      cat      dog      dog      hamster  
cat      dog      rabbit      hamster      cat      cat  
dog      dog      cat      dog      rabbit      dog

(a) Complete the frequency table for this information.

Pet	Tally	Frequency
dog		8
rabbit		3
cat		5
hamster		2

(2)

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



(3)

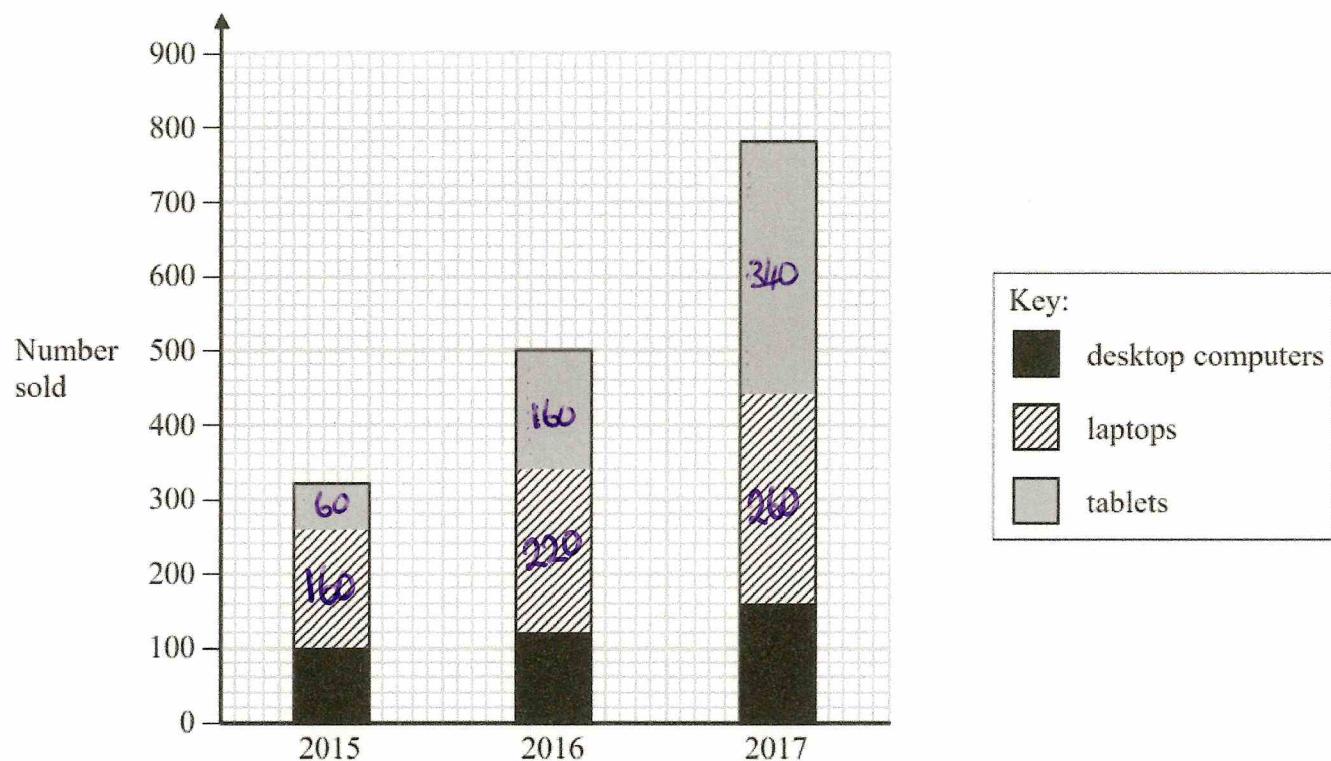
(c) Write down the most popular pet.

Pets

Dog

12 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.

$$\text{tablets} = 340 - 60 = 280$$

$$\text{laptop} = 260 - 160 = 100$$

Tablets have had the greatest increase.

(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.

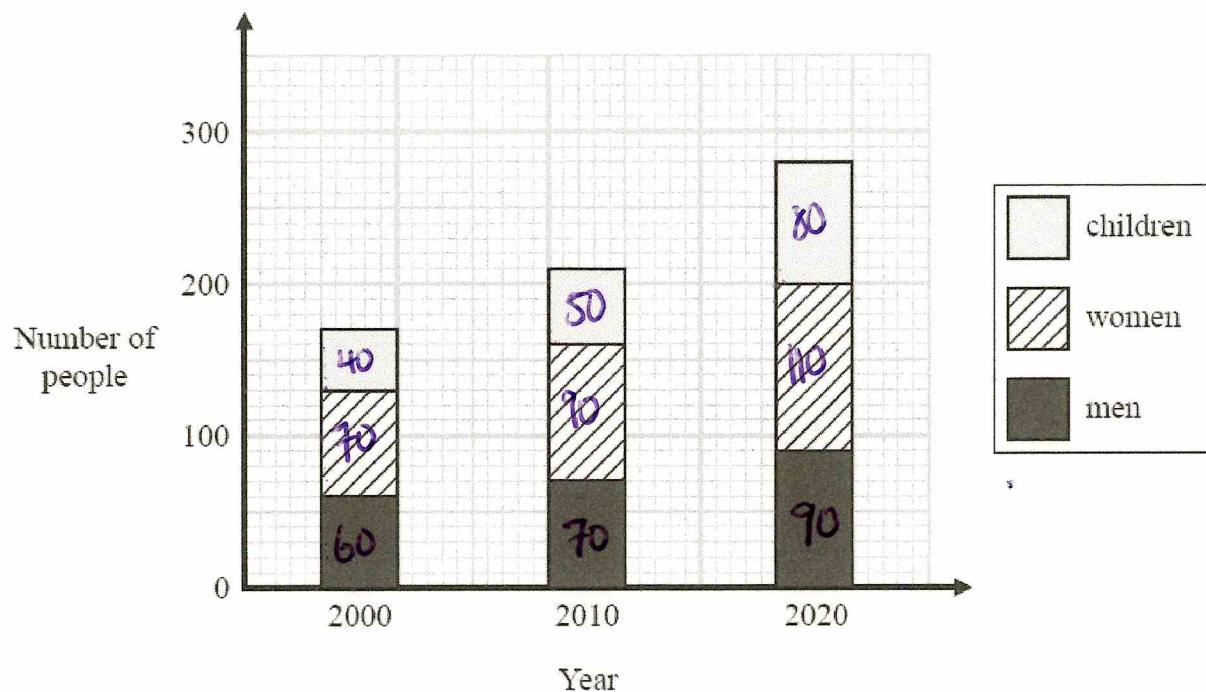
No, we don't know how much profit is being made on each laptop or tablet.

(1)

May 2018 – Paper 1F

(Total for Question 12 is 7 marks)

13 The composite bar chart shows information about the number of people living in a village.



(a) Write down the number of men living in the village in the year 2000

60

(1)

(b) Find the number of children living in the village in the year 2010

50

(1)

For the people living in the village in the year 2020

(c) find the ratio of the number of children to the **total** number of men and women.

Children : M+W

80 : 200

8 : 20

2 : 5

2 : 5

(2)

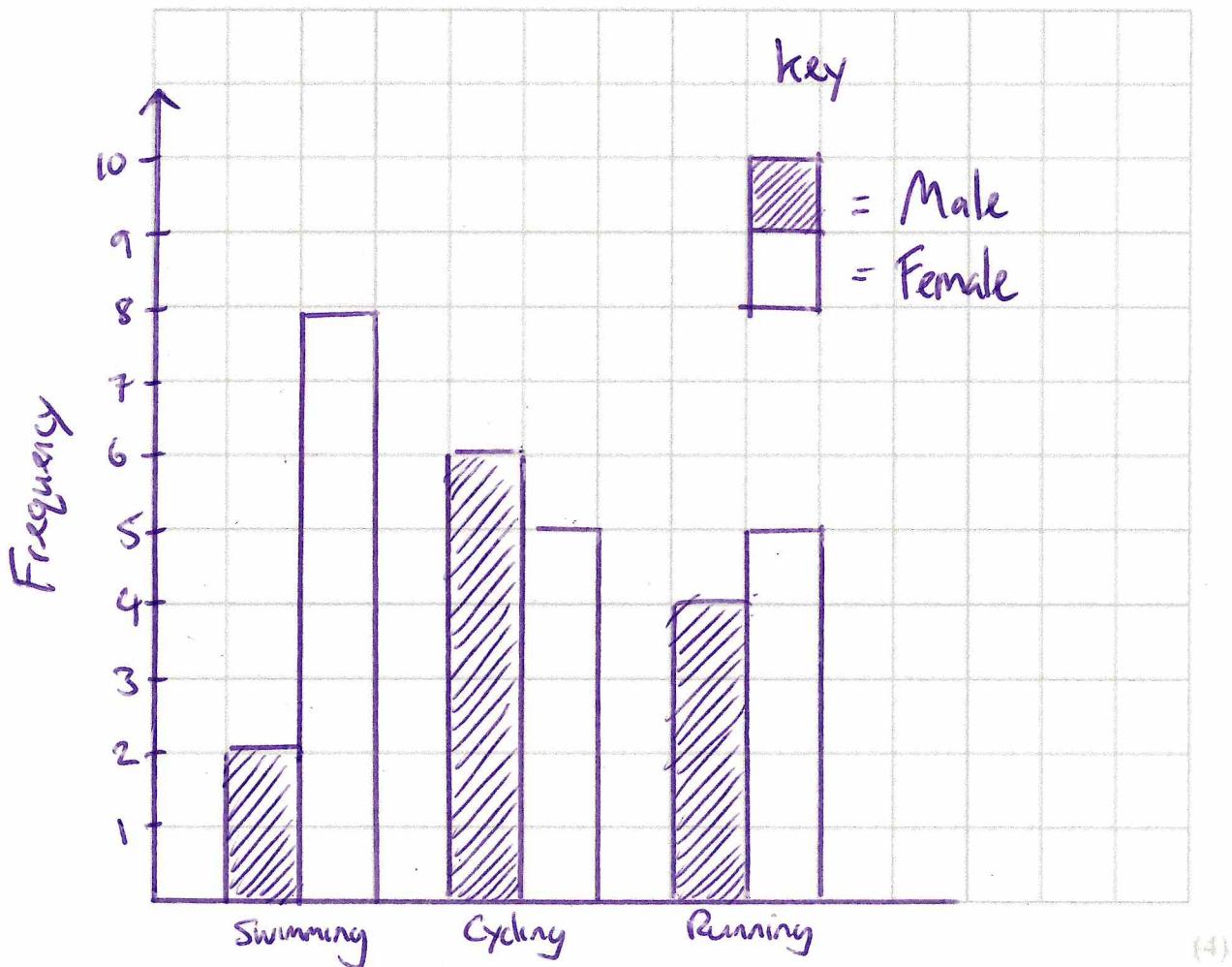
(Total for Question 13 is 4 marks)

14 Some people were asked if they liked swimming or cycling or running.

The table shows the results for the males and the results for the females.

	Swimming	Cycling	Running	
Male	2	6	4	$= 12$
Female	8	5	5	$= 18$
				$\frac{30}{30}$

(a) On the grid, draw a bar chart to show this information.



(4)

(b) Work out the percentage of the 30 people that are female.

$$\frac{18}{30} = \frac{6}{10}$$

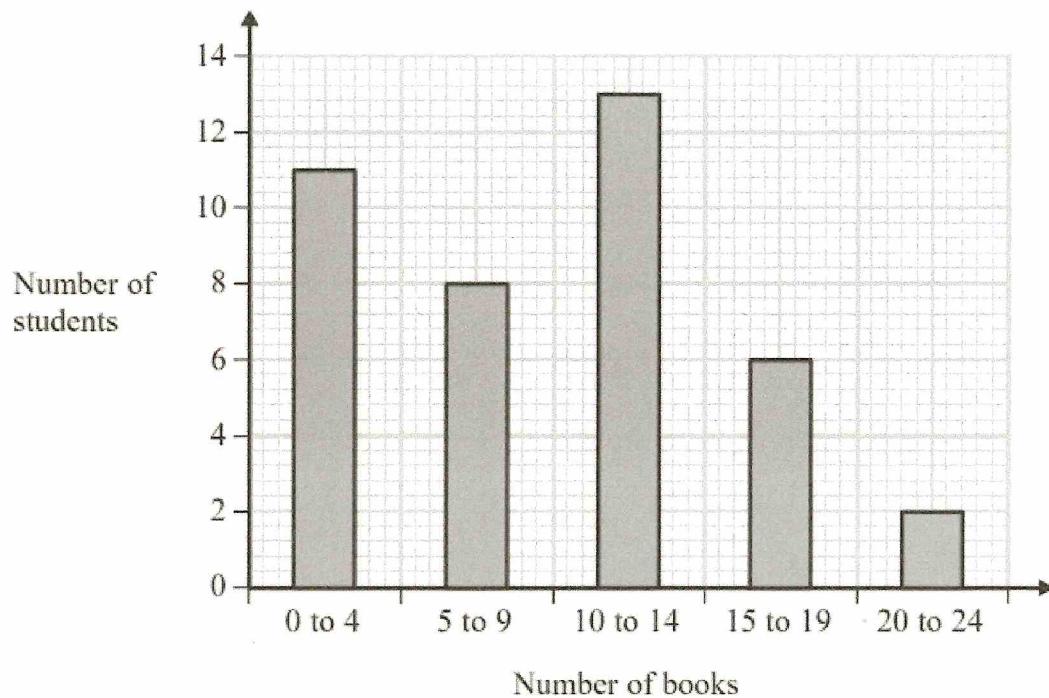
60

%

(2)

23 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.

$$\frac{2}{40} = \frac{1}{20} = \frac{5}{100}$$

5  
%  
(2)

(b) Show that an estimate for the mean number of books bought is 9.5  
You must show all your working.

	Midpoint	Frequency	
0 - 4	2	11	= 22
5 - 9	7	8	= 56
10 - 14	12	13	= 156
15 - 19	17	6	= 102
20 - 24	22	2	= 44
			<u>380</u>

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

(4)