

8300

GCSE MATHEMATICS

Foundation tier – Questions by Topic

Statistics

Drawing bar charts

v1.0

Name _____

Materials

For this paper you must have:

- Mathematical instruments

Information

- The marks for questions are shown in brackets

Advice

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

For questions 1 and 2 you must **NOT** use a calculator.



Q1.

Shamira uses a tally chart to record the vehicles passing her school.
Here is her chart with the tallies.
Each 5-bar gate (||||) represents 5 vehicles.

Vehicle	Tally	Frequency
Car		
Bus		
Van		
Lorry		

- (a) Shamira says,
“The number of cars is more than the **total** of the other vehicles
because cars have four 5-bar gates and the others only have three 5-bar gates.”
Is she correct?
Tick a box.

Yes

☐

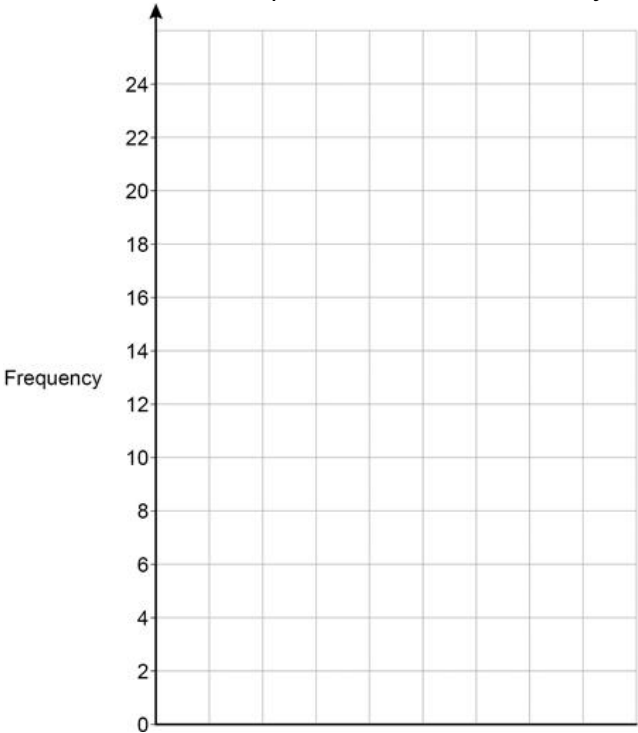
No

☐

Show working to support your answer.

(2)

- (b) On the grid, draw a bar chart to represent the data in the tally chart.



(3)

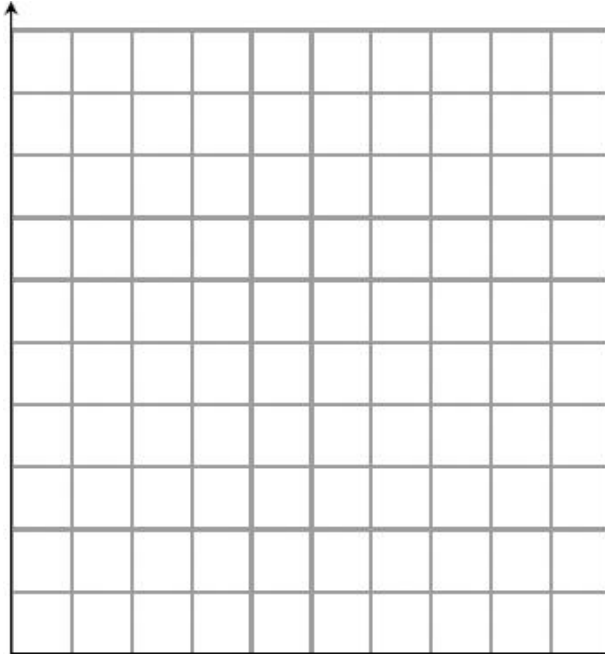
(Total 5 marks)

Q2.

This table shows what 20 students do for lunch.

Sandwiches	School dinner	Go home
7	5	8

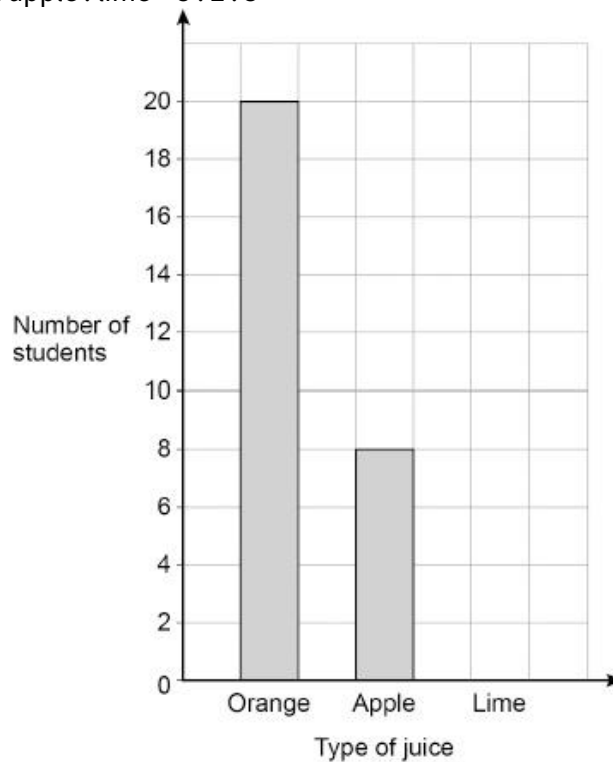
Draw a bar chart to show this information.



(Total 4 marks)

Q3.

Students choose juice with their school meal in the ratio
orange : apple : lime = 5 : 2 : 3

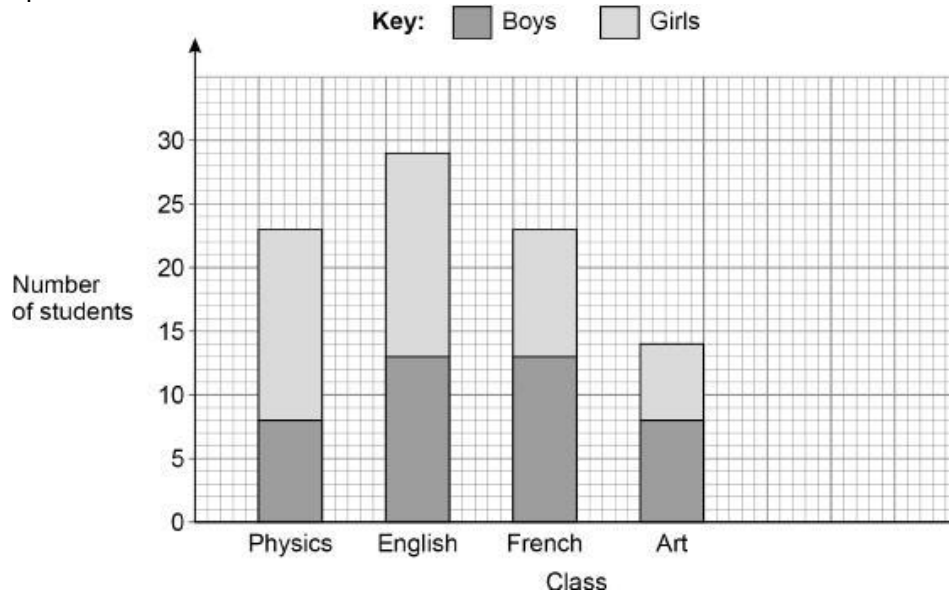


Complete the bar chart.

(Total 3 marks)

Q4.

The composite bar chart shows the number of students in some classes.



(a) How many boys are in the Physics class?

Answer _____

(1)

(b) How many girls are in the English class?

Answer _____

(1)

(c) Which **two** classes have the same total number of students?

Answer _____ and _____

(1)

(d) In the History class

there are 18 students

number of boys = number of girls

Show this information on the bar chart.

(2)

(Total 5 marks)

Q5.

The table shows how 25 students travel to school.

Walk	Bus	Car	Taxi
9	8	7	1

Draw a bar chart to show this information.



(Total 4 marks)

For the rest of the questions, you may use a calculator.



Q6.

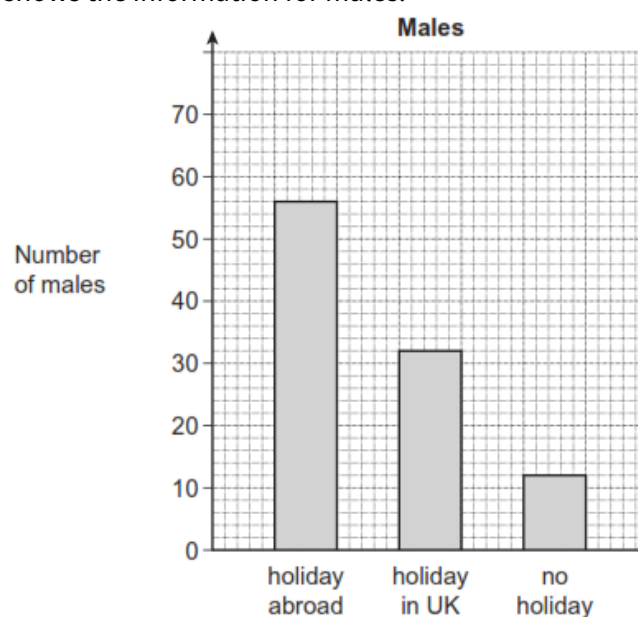
The table shows information about the main holiday of 200 students in 2011.

	Holiday abroad	Holiday in UK	No holiday	Total
Male	56	32	12	100
Female	70	24		100

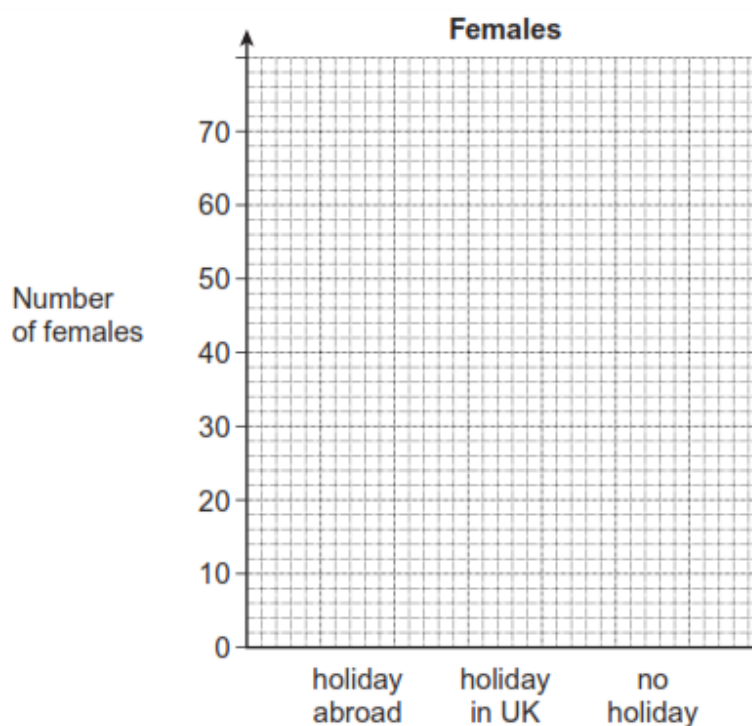
(a) Complete the table.

(2)

(b) The bar chart shows the information for males.



Draw the bar chart for females.



(3)

- (c) A travel firm sells holidays to students for 2012.
Do you think they will sell more holidays abroad or holidays in the UK?
Tick a box.

Holidays
abroad

☐

Holidays
in UK

☐

Cannot
tell

☐

Give a reason for your answer

(1)

- (d) The information for males and females could be shown on a dual bar chart.
Why might this be a good idea?

(1)

(Total 7 marks)

Q7.

Nick takes four tests.
The pictogram shows his scores.

English	
Geography	
Mathematics	
Science	

- (a) Nick scores 60% in English.

Complete the key. Key:  represents _____%

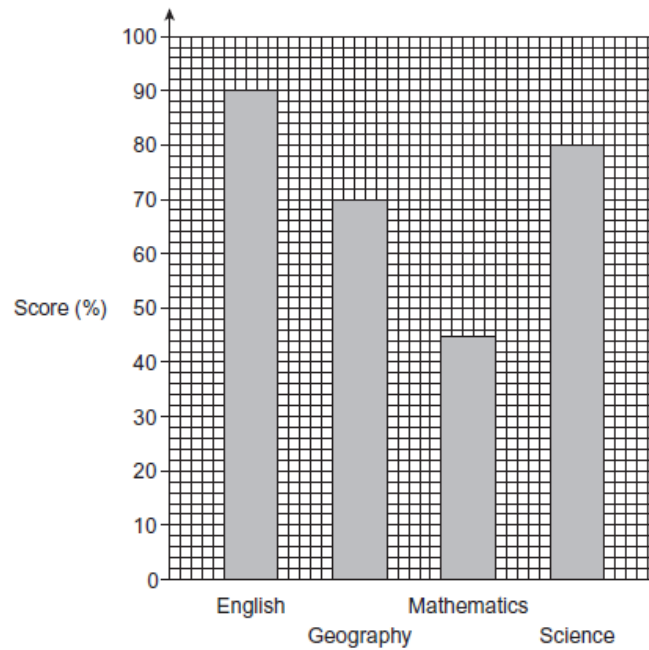
(1)

- (b) In which subject is his highest score?

Answer _____

(1)

- (c) Jen takes the same four tests.
The bar chart shows her scores.



- (i) Nick wants to compare his scores with Jen's scores.
Draw a suitable diagram that he can use.



(4)

- (ii) Write down **three** facts comparing their scores.

Fact 1 _____

Fact 2 _____

Fact 3 _____

(3)

(Total 9 marks)

Q8.

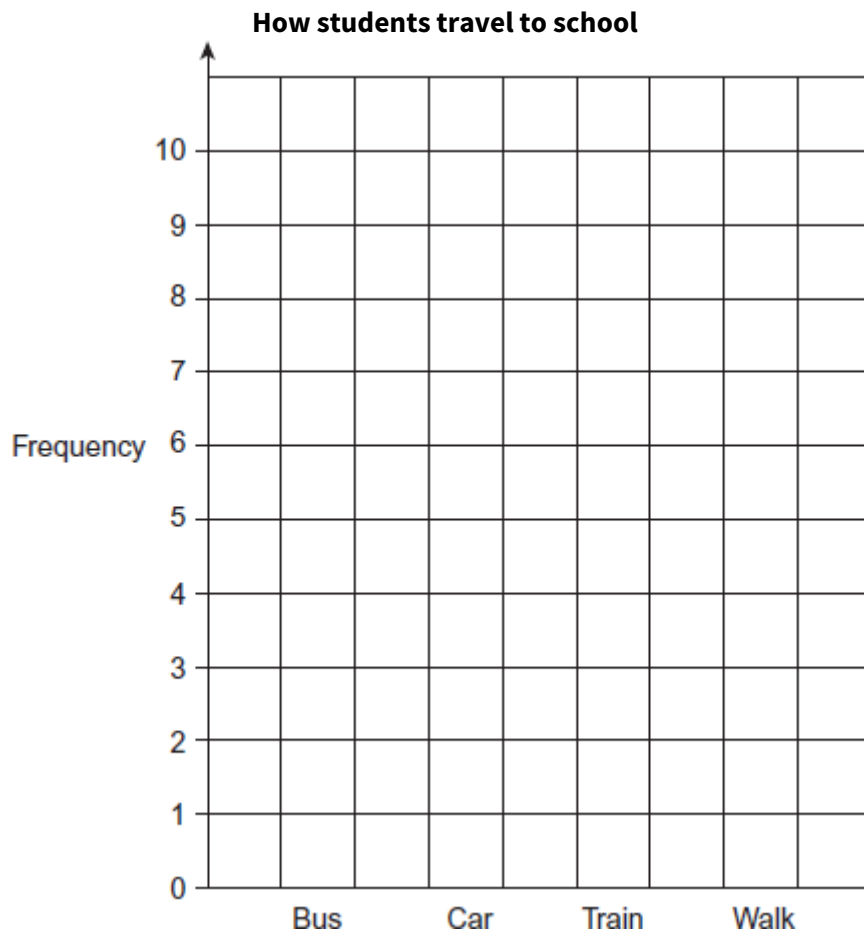
20 students give information about how they travel to school.

Half the students travel by bus.

7 students travel by car.

Twice as many students travel by train as walk.

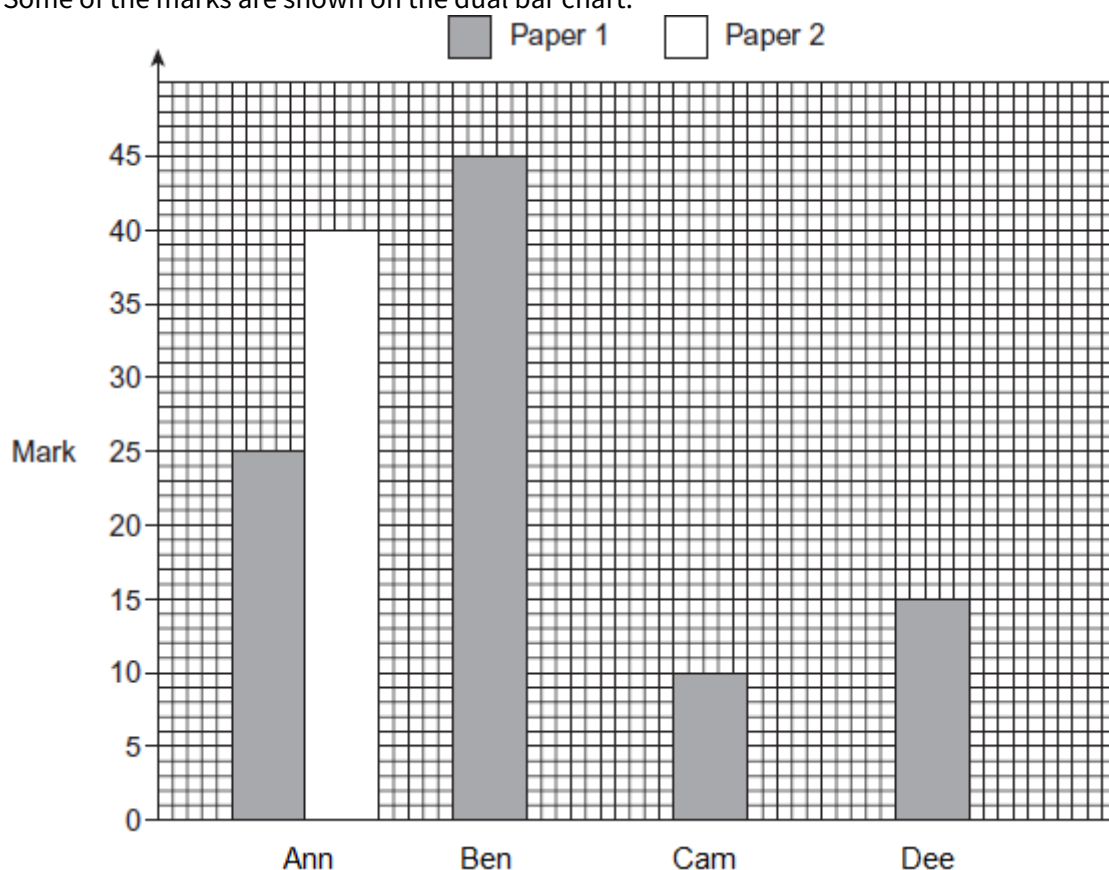
Show this information on a bar chart.



(Total 4 marks)

Q9.

Four friends took two exam papers.
Some of the marks are shown on the dual bar chart.



- (a) Who had the lowest mark on Paper 1?
Circle your answer.

Ann Ben Cam Dee

(1)

- (b) These are the marks for Paper 2.

	Ann	Ben	Cam	Dee
Paper 2	40	15	30	35

Complete the dual bar chart.

(2)

- (c) How many marks did Ann get altogether?

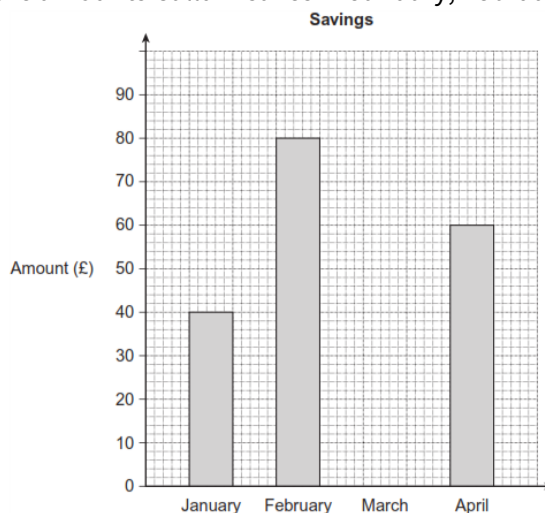
Answer _____

(2)

(Total 5 marks)

Q10.

- (a) The bar chart shows the amounts Callum saves in January, February and April 2010.



- (i) How much does he save in January 2010?

Answer £ _____

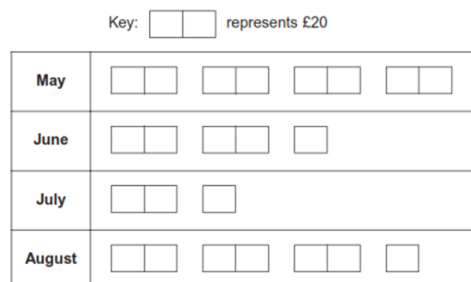
(1)

- (ii) From January to April he saves £250 in total.

Complete the bar chart by drawing the bar for March.

(3)

- (b) The pictogram shows the amounts Callum saves in the next four months.



Work out the range of the amount he saves in these four months.
You **must** show your working.

Answer £ _____

(2)

- (c) (i) For the rest of 2010 Callum saves £50 each month.
How much does he save in 2010 in total?

Answer £ _____

(3)

- (ii) Callum spends 50% of these total savings to pay for a holiday.
How much does he pay for the holiday?

Answer £ _____

(2)

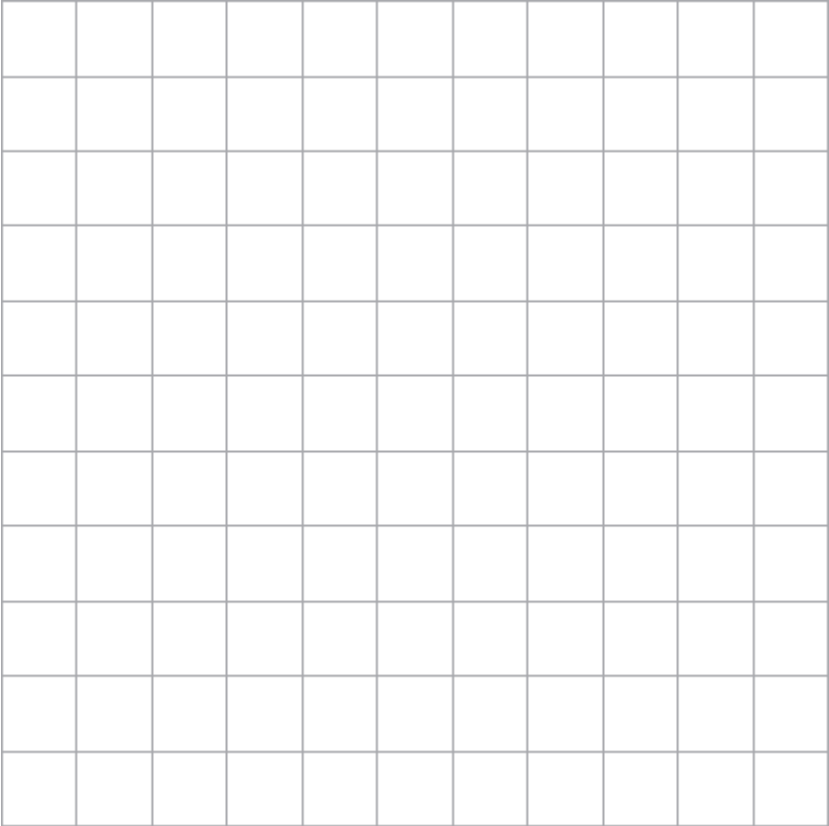
(Total 11 marks)

Q11.

A band played 20 concerts in five continents.

Continent	Tally	Frequency
Africa		
Asia		
Europe		
North America		
South America		
		Total = 20

(a) Draw a fully labelled bar chart to show this information.



(4)

(b) What fraction of the 20 concerts were in South America?
Give your answer in its simplest form.

Answer _____

(2)

(Total 6 marks)

Q12.

The pictogram shows how some people travel.

Key:  represents 10 people

Car	    
Bus	   
Bicycle	 
Tram	  

- (a) How many of these people travel by car?

Answer _____

(1)

- (b) Which is used by the fewest?
Circle your answer.

Car

Bus

Bicycle

Tram

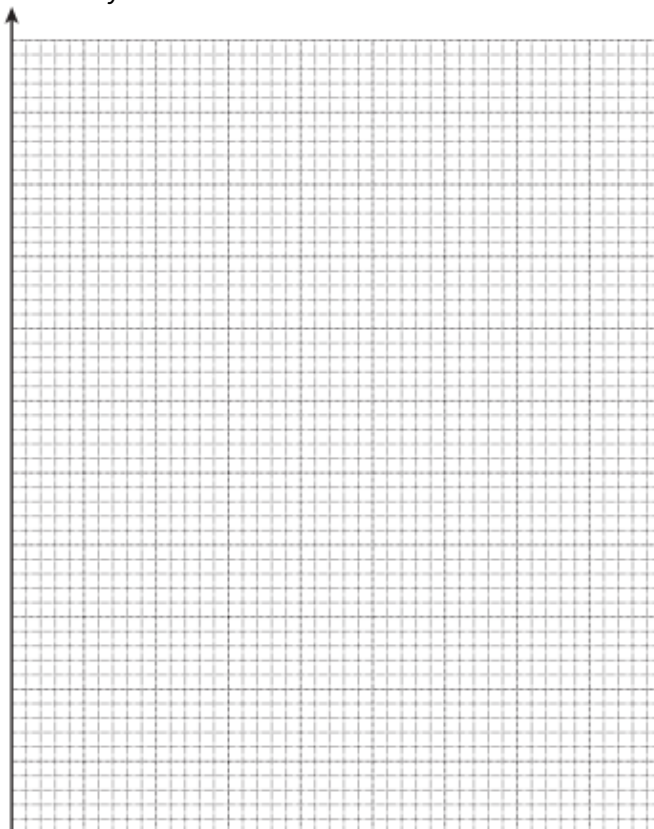
(1)

- (c) How many more people travel by bus than by tram?

Answer _____

(2)

- (d) Show the data in a fully labelled bar chart.



(5)

(Total 9 marks)

Q13.

A shop sells these 15 ice-creams.

Chocolate

Vanilla

Vanilla

Vanilla

Strawberry

Vanilla

Chocolate

Vanilla

Strawberry

Strawberry

Chocolate

Chocolate

Strawberry

Vanilla

Chocolate

(a) Complete the table.

Flavour	Tally	Frequency
Chocolate		
Vanilla		
Strawberry		
		Total = 15

(3)

(b) The shop sells

7 cones

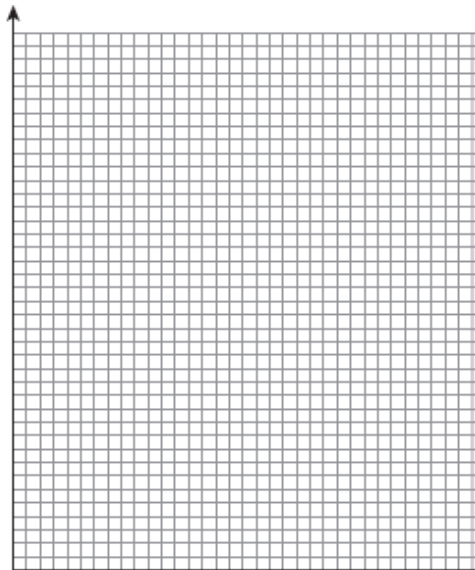
5 tubs

3 wafers.

Show this information on a bar chart.

Ice creams

Number of
ice creams



(4)

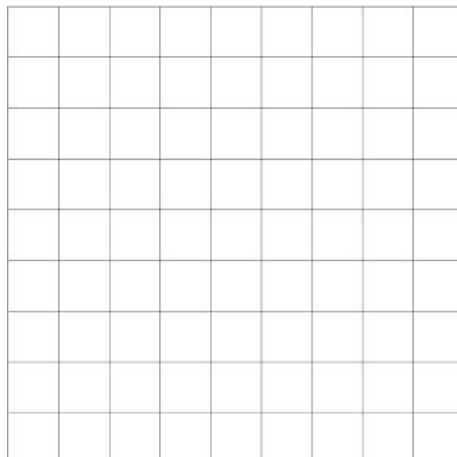
(Total 7 marks)

Q14.

The table shows information about the birds in a garden.

Bird	Number
Robin	2
Sparrow	5
Wren	3
Lark	1

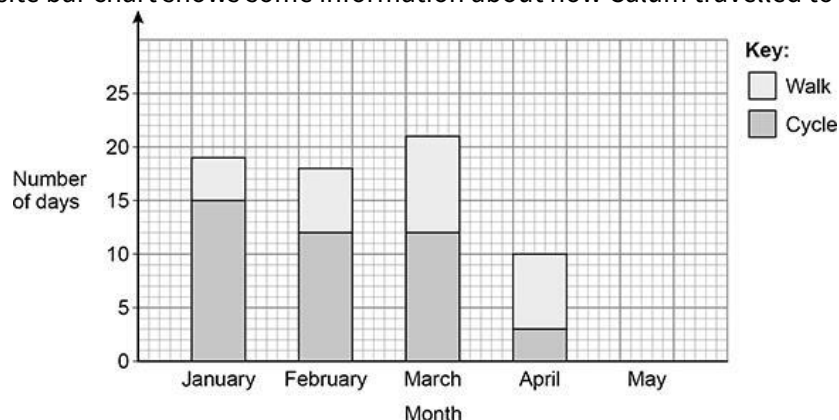
Draw a bar chart to show the information.



(Total 3 marks)

Q15.

The composite bar chart shows some information about how Calum travelled to school.



- (a) In January, how many days did he walk to school?

Answer _____

(1)

- (b) In which month did he cycle on twice as many days as he walked?

Answer _____

(1)

- (c) In May, Calum went to school on 20 days.

$\frac{1}{4}$

He cycled on $\frac{1}{4}$ of the days.

He walked on the other days.

Show this information on the bar chart.

(2)

(Total 4 marks)

Q16.

16 people were asked to name their favourite fruit juice.

Here are the results.

Favourite juice	Frequency
Apple	6
Grapefruit	1
Orange	4
Mango	5

- (a) One of the people was picked at random.

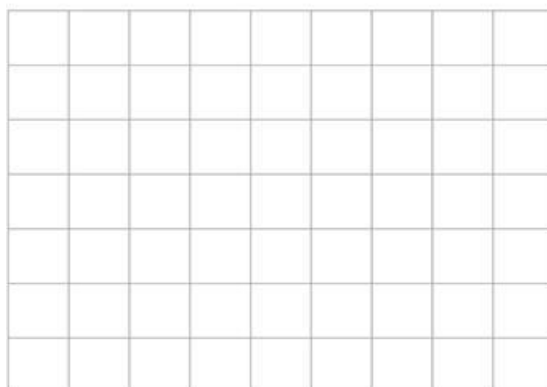
Work out the probability that their favourite juice was orange **or** mango.

Answer _____

(1)

- (b) On the grid, draw a bar chart to represent the results.

Favourite juice



(3)

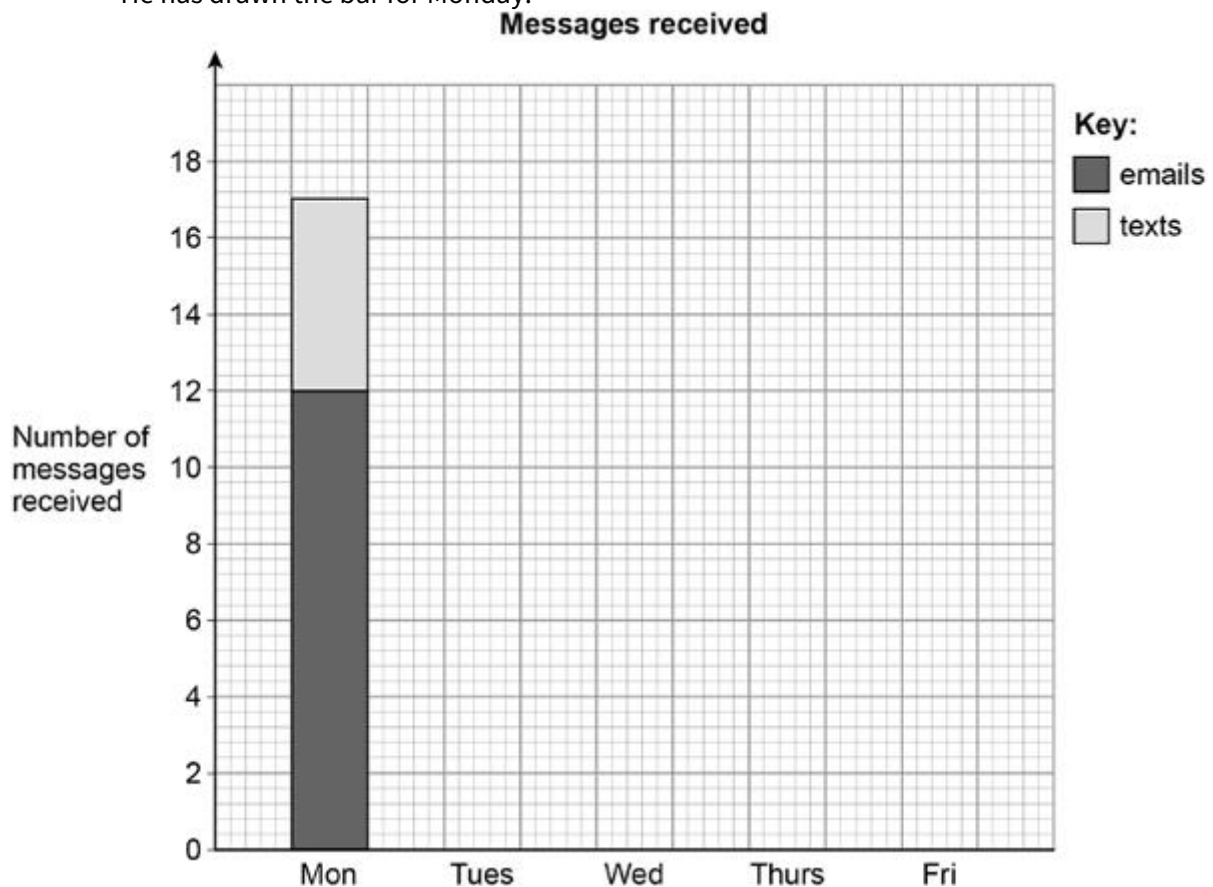
(Total 4 marks)

Q17.

The table shows the number of messages Sam received each day for five days.

	Messages	
	Number of emails	Number of texts
Monday	12	5
Tuesday	8	6
Wednesday	10	3
Thursday	6	6
Friday	12	4

- (a) Sam draws a composite bar chart to represent the data.
He has drawn the bar for Monday.



Complete the chart.

(2)

- (b) In total, what fraction of the messages were emails?
Give your answer in its simplest form.

Answer _____

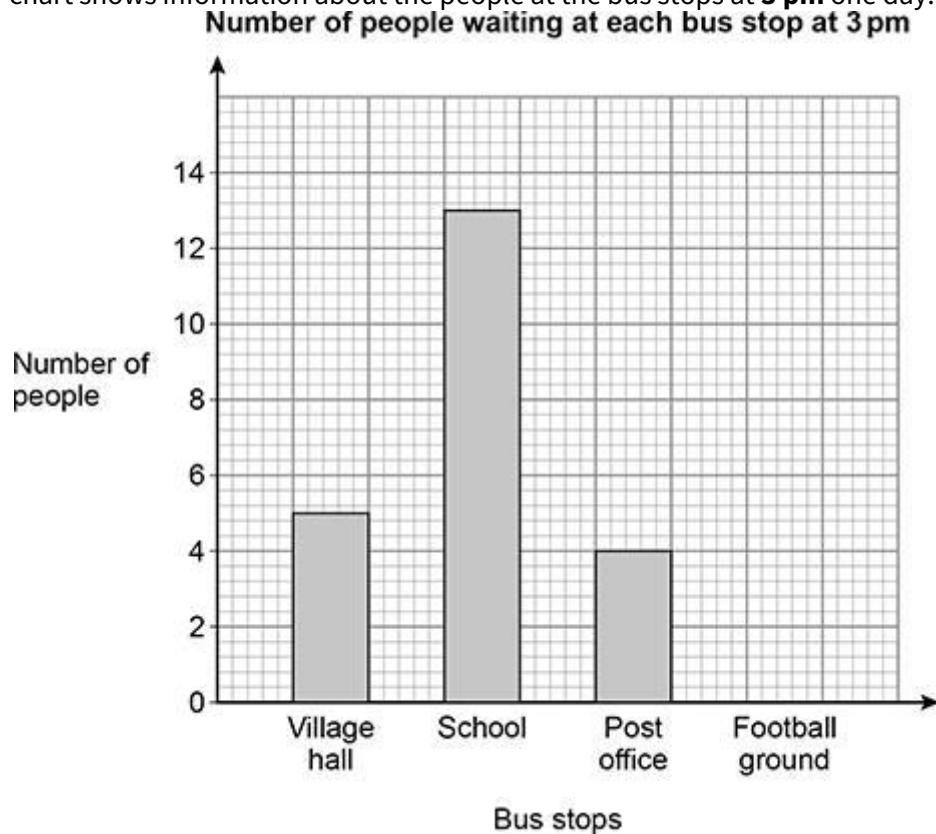
(3)

(Total 5 marks)

Q18.

A village has four bus stops.

The bar chart shows information about the people at the bus stops at **3 pm** one day.



- (a) Two people were at the Football ground bus stop.
Show this information on the bar chart.

(1)

- (b) How many **more** people were at the School bus stop than at the Post office bus stop?

Answer _____

(1)

(Total 2 marks)