



Maths Questions By Topic:

Statistics

Edexcel GCSE (Foundation)

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Old Spec A (Linear)

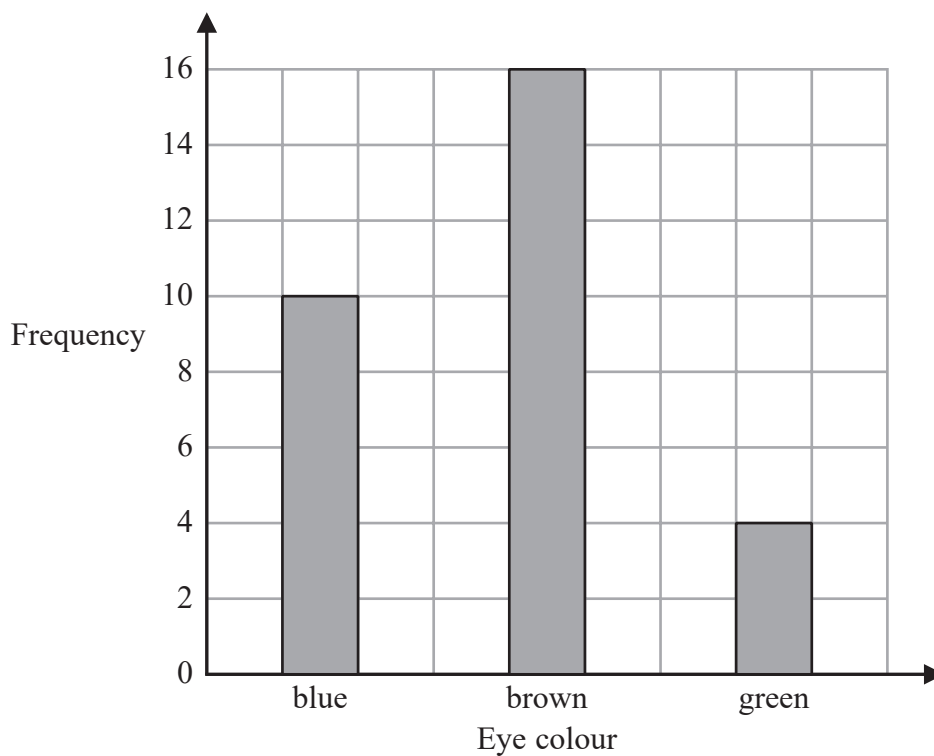
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1 Grace recorded the eye colour of each of the students in her class.

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.

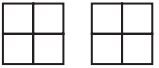
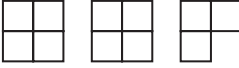
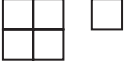
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.....

(Total for Question 1 is 1 mark)

2 The pictogram shows information about the number of video games sold in a shop on Monday, on Tuesday and on Wednesday.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:

 represents 8 video games

(a) How many video games were sold on Monday?

.....
(1)

More video games were sold on Tuesday than on Wednesday.

(b) How many more?

.....
(2)

On Thursday and Friday, a total of 32 video games were sold in the shop.

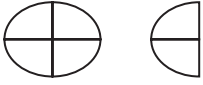
$\frac{1}{4}$ of these 32 video games were sold in the shop on Thursday.

(c) Complete the pictogram for Thursday and Friday.

.....
(3)

(Total for Question 2 is 6 marks)

- 3 The incomplete pictogram shows information about the number of eggs sold from a farm shop on Monday.

Monday	
Tuesday	
Wednesday	

Key:

On Monday the shop sold 18 eggs.
On Tuesday the shop sold 24 eggs.
On Wednesday the shop sold 27 eggs.

Use this information to complete the pictogram and the key.

(Total for Question 3 is 4 marks)

4 Ishmael asked 30 students at college to tell him the sport they each like the best from cricket or tennis or swimming.

11 of the 20 female students said swimming.

2 of the male students said tennis.

5 students said cricket.

The number of male students who said cricket was the same as the number of male students who said swimming.

Complete the two-way table.

	Cricket	Tennis	Swimming	Total
Male students				
Female students				20
Total				30

(Total for Question 4 is 3 marks)

- 5 The table gives information about the number of points scored by each of 16 students in a game.

Number of points	Frequency
0	1
1	3
2	5
3	4
4	3

Tina worked out the median of the number of points scored to be 5

- (a) Explain why it is **not** possible for the median to be 5

.....
.....
.....
(1)

Tina also worked out the total number of points scored by the 16 students in the game. Here is her working.

$$(0 \times 1) + (1 \times 3) + (2 \times 5) + (3 \times 4) + (4 \times 3) = 1 + 3 + 10 + 12 + 12 = 38$$

Tina made a mistake in her working to find the total number of points scored.

- (b) Describe the mistake that Tina made.

.....
.....
.....
(1)

(Total for Question 5 is 2 marks)

6 The table shows information about the heights, in cm, of a group of Year 9 girls.

least height	150 cm
median	165 cm
greatest height	170 cm

This stem and leaf diagram shows information about the heights, in cm, of a group of 15 Year 9 boys.

15	|	8 9 9
16	|	4 5 7 7 8
17	|	0 3 4 4 7
18	|	0 2

Key: 15 | 8 represents 158 cm

Compare the distribution of the heights of the girls with the distribution of the heights of the boys.

.....

.....

.....

.....

.....

.....

.....

(Total for Question 6 is 3 marks)

- 7 The pictogram shows information about the number of pictures sold in an art shop in each of January, February and March.

January	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
February	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>
March	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
April				

Key:	
<input type="checkbox"/>	represents 8 pictures

- (a) Write down the number of pictures sold in January.

.....
(1)

12 pictures were sold in April.

- (b) Show this information on the pictogram.

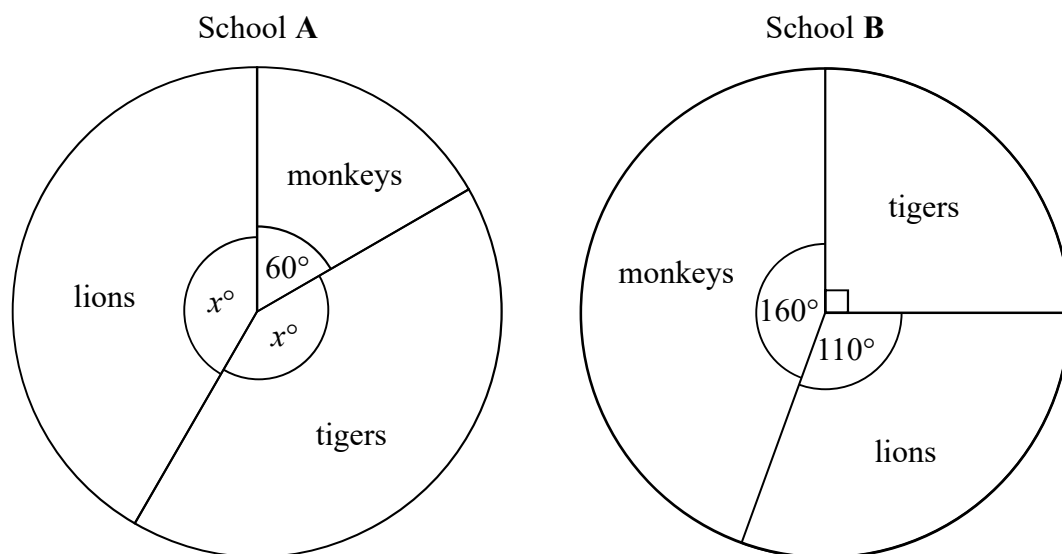
(1)

- (c) What was the total number of pictures sold in these four months?

.....
(2)

(Total for Question 7 is 4 marks)

- 8 The pie charts show information about the favourite animal of each student at school A and of each student at school B.



There are 480 students at school A.

There are 760 students at school B.

Henry says,

“The same number of students at each school have tigers as their favourite animal.”

Is Henry correct?

You must show how you get your answer.

(Total for Question 8 is 4 marks)

- 9 4 red bricks have a mean weight of 5 kg.
5 blue bricks have a mean weight of 9 kg.
1 green brick has a weight of 6 kg.

Donna says,

“The mean weight of the 10 bricks is less than 7 kg.”

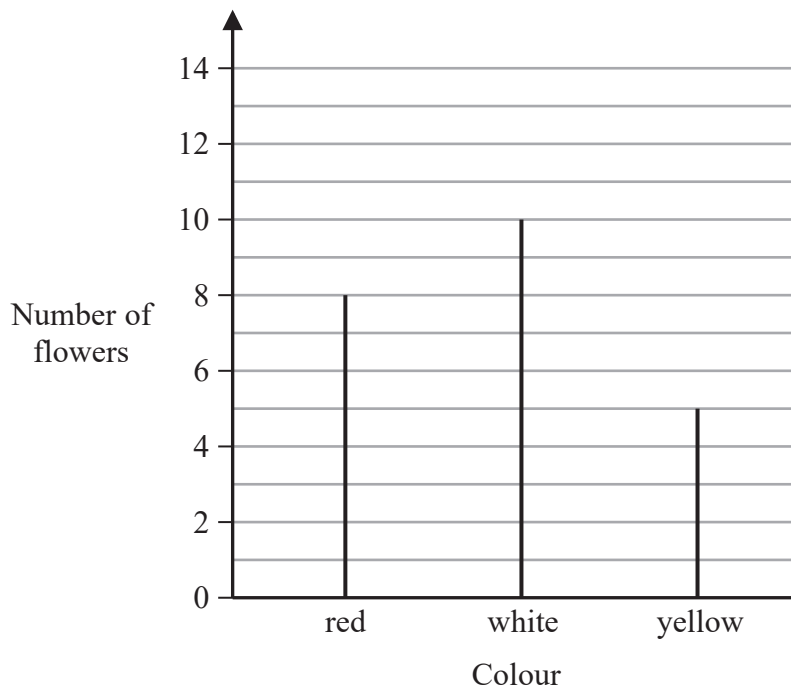
Is Donna correct?

You must show how you get your answer.

(Total for Question 9 is 3 marks)

10 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.

.....
(2)

(b) Write down the mode.

.....
(1)

(Total for Question 10 is 3 marks)

11 There are 40 students in a class.
Each student walks to school or cycles to school or gets the bus to school.

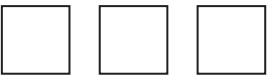
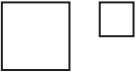

There are 22 girls in the class.
9 of the girls walk to school.
7 of the boys cycle to school.
6 of the 10 students who get the bus to school are boys.

Find the number of these students who walk to school.

.....
(Total for Question 11 is 4 marks)

12 There are only apple trees, cherry trees, pear trees and plum trees in an orchard.

The pictogram shows information about the numbers of apple trees, cherry trees and pear trees in the orchard.

Apple	
Cherry	
Pear	
Plum	

Key:

 represents 4 trees

There is a total of 30 trees in the orchard.

Complete the pictogram.

(Total for Question 12 is 3 marks)

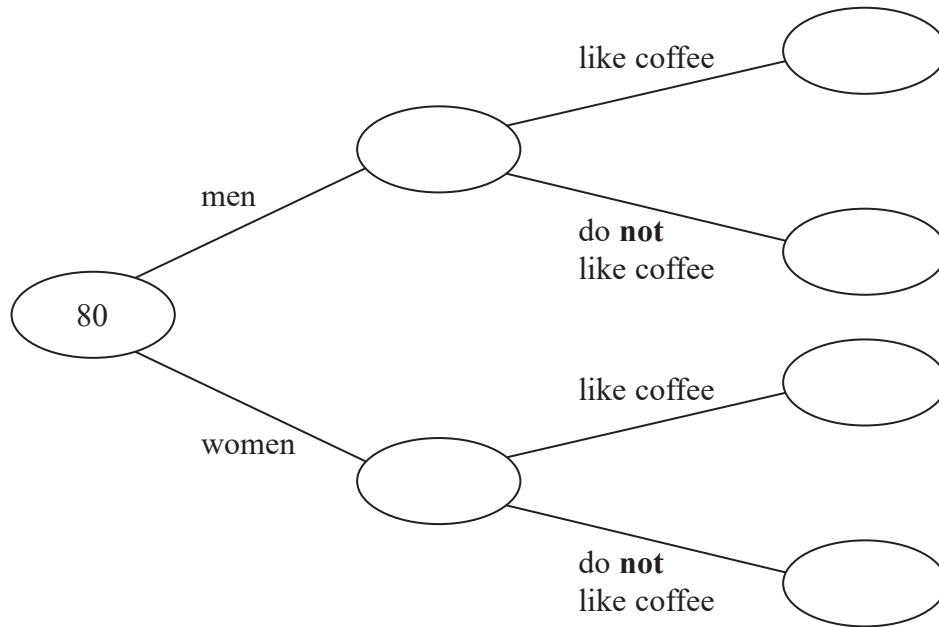
13 80 people are asked if they like coffee.

48 of these people are women.

61 of the 80 people like coffee.

8 of the men do **not** like coffee.

(a) Use this information to complete the frequency tree.



(3)

One of the people who like coffee is chosen at random.

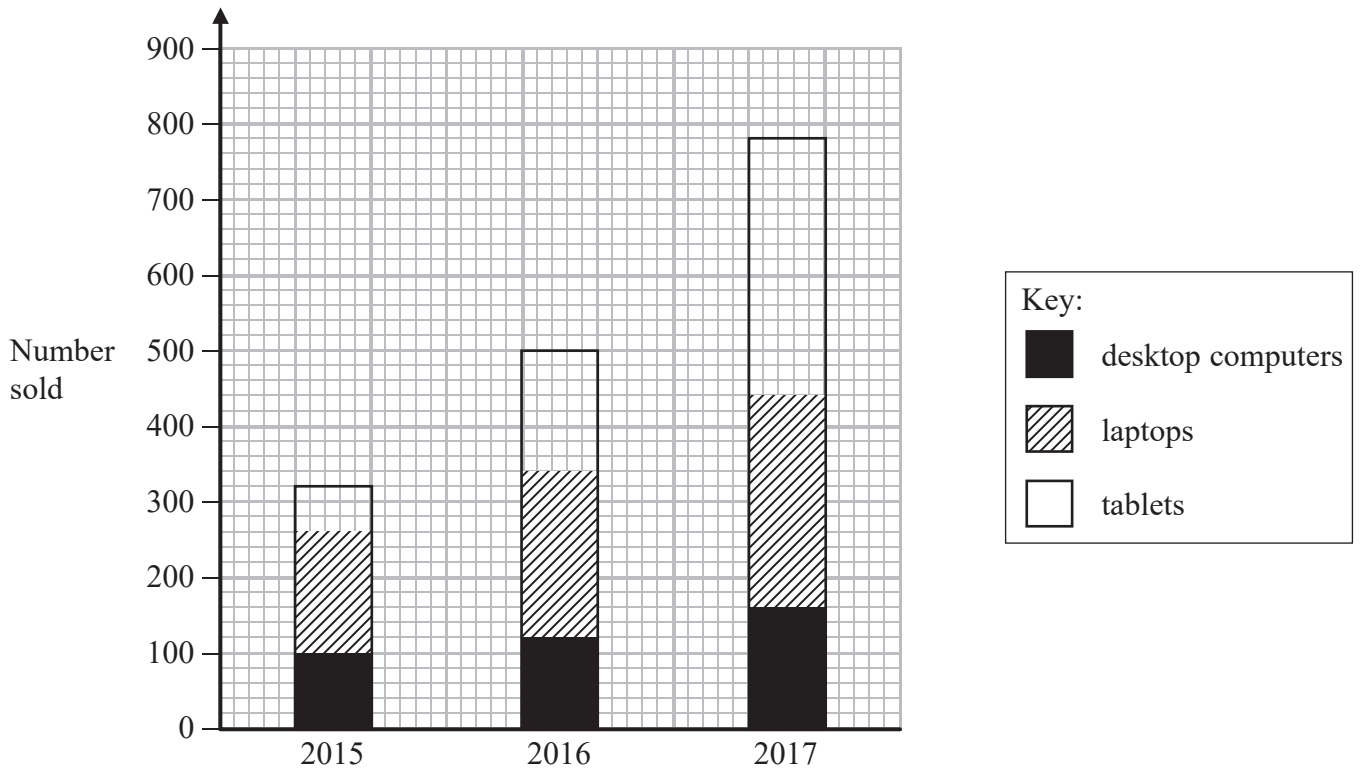
(b) Find the probability that this person is a woman.

.....
(2)

(Total for Question 13 is 5 marks)

14 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

.....
(1)

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

.....
(3)

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

.....
.....
.....
(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.

.....

.....

.....

(1)

(Total for Question 14 is 7 marks)

15 Jake and Sarah each played a computer game six times.

Their scores for each game are shown below.

Jake	10	9	8	11	12	8
Sarah	2	10	7	14	4	10

- (a) Who had the most consistent scores, Jake or Sarah?
You must give a reason for your answer.

(1)

Jake played a different game 20 times.

The stem and leaf diagram shows information about his scores.

0	9
1	2 3 3 4 5
2	5 6 6 6 6 7
3	1 3 4 6 8
4	0 2 9

Key

1 | 2 represents 12 points

Jake said his modal score was 6 points because 6 occurs most often in the diagram.

- (b) Is Jake correct?
You must explain your answer.

(1)

(Total for Question 15 is 2 marks)

16 Emma has 45 rabbits.

30 of the rabbits are male.

8 of the female rabbits have short hair.

12 of the rabbits with long hair are male.

Use the information to complete the two-way table.

	Male	Female	Total
Long hair			
Short hair			
Total			

(3)

(Total for Question 16 is 3 marks)

17 The table shows information about the weekly earnings of 20 people who work in a shop.

Weekly earnings (£ x)	Frequency
$150 < x \leq 250$	1
$250 < x \leq 350$	11
$350 < x \leq 450$	5
$450 < x \leq 550$	0
$550 < x \leq 650$	3

(a) Work out an estimate for the mean of the weekly earnings.

£.....
(3)

Nadiya says,

“The mean may **not** be the best average to use to represent this information.”

(b) Do you agree with Nadiya?
You must justify your answer.

.....
.....
(1)

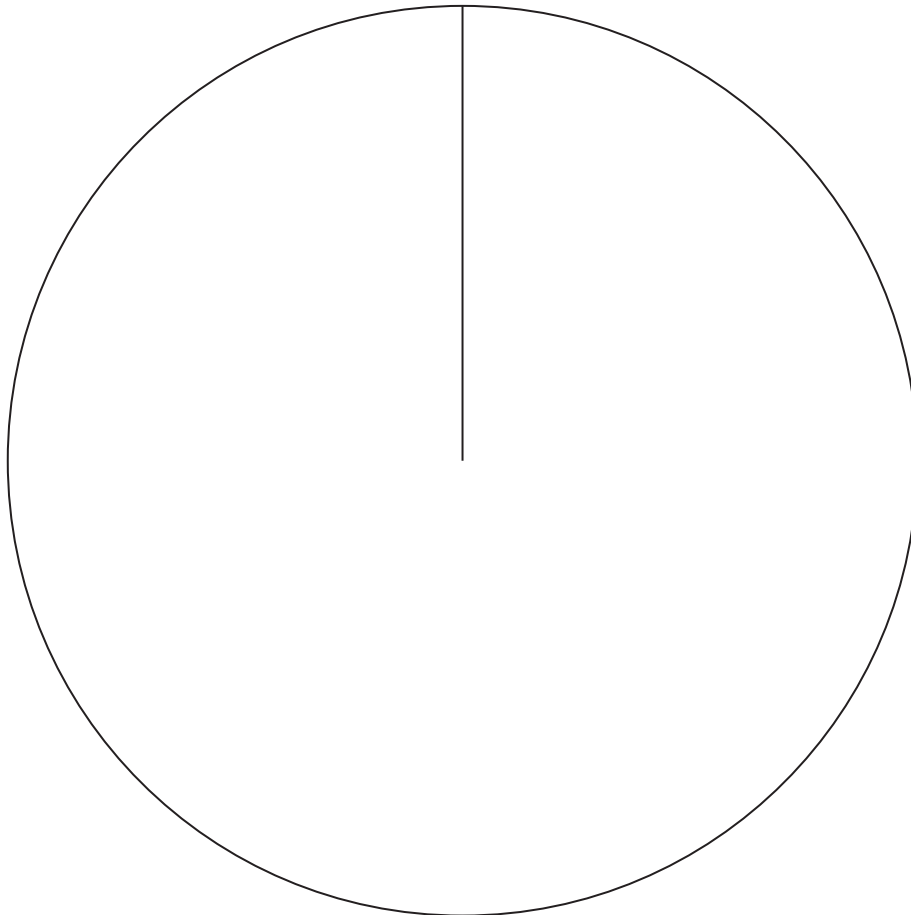
(Total for Question 17 is 4 marks)

18 Year 9 students from Halle School were asked to choose one language to study.

The table shows information about their choices.

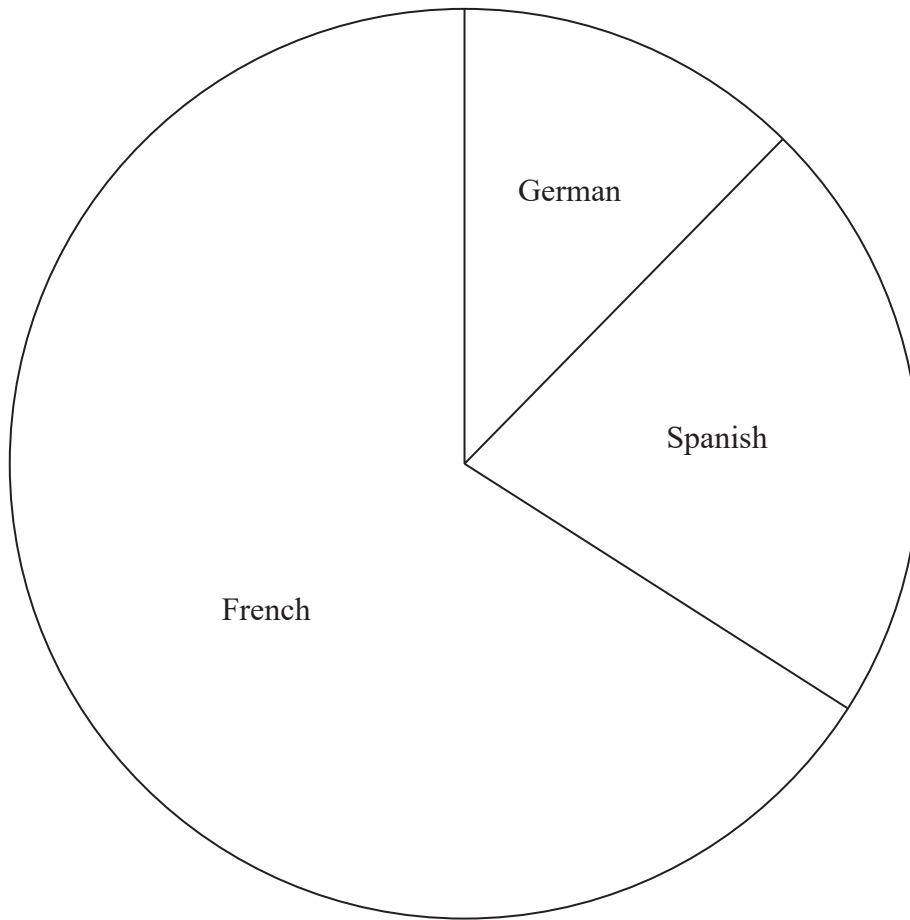
Language	Number of students	
French	56	
Spanish	40	
German	24	

(a) Draw an accurate pie chart to show this information.



(3)

Year 9 students from Lowry School were also asked to choose one language to study.
This accurate pie chart shows information about their choices.



Shameena says,

“The pie chart shows that French was chosen by more Year 9 students at Lowry School than at Halle School.”

(b) Is Shameena right?
You must explain your answer.

.....

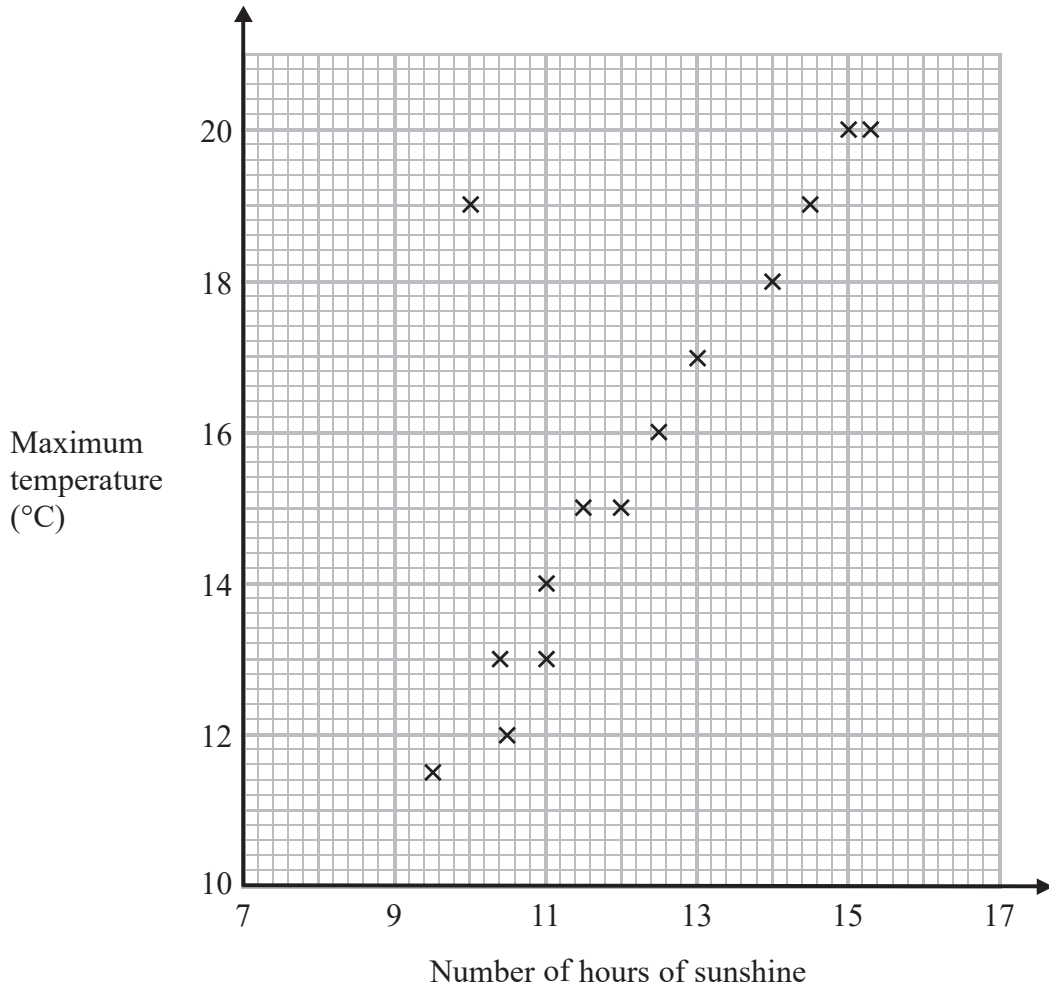
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.....

(1)

(Total for Question 18 is 4 marks)

19 The scatter graph shows the maximum temperature and the number of hours of sunshine in fourteen British towns on one day.



One of the points is an outlier.

(a) Write down the coordinates of this point.

(.....,)
(1)

(b) For all the other points write down the type of correlation.

.....
(1)

On the same day, in another British town, the maximum temperature was 16.4°C .

(c) Estimate the number of hours of sunshine in this town on this day.

..... hours

(2)

A weatherman says,

“Temperatures are higher on days when there is more sunshine.”

(d) Does the scatter graph support what the weatherman says?

Give a reason for your answer.

.....
.....
(1)




(Total for Question 19 is 5 marks)


20 The table shows information about the numbers of fruit trees in an orchard.

Apple tree	Pear tree	Plum tree
45	20	25

(a) The pictogram shows this information.

Complete the key for the pictogram.

Apple tree	
Pear tree	
Plum tree	

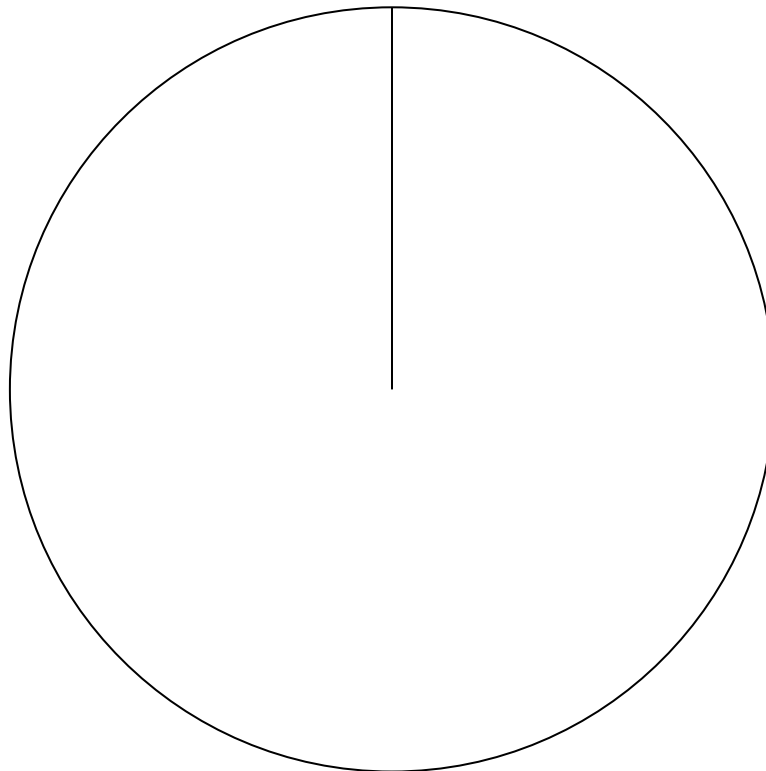
Key:  represents trees

(1)

(b) There are 90 fruit trees in the orchard.

Apple tree	Pear tree	Plum tree
45	20	25

Draw an accurate pie chart for this information.



(3)

(Total for Question 20 is 4 marks)

21 There are 1200 students at a school.

Kate is helping to organise a party.
She is going to order pizza.

Kate takes a sample of 60 of the students at the school.
She asks each student to tell her **one** type of pizza they want.

The table shows information about her results.

Pizza	Number of students
ham	20
salami	15
vegetarian	8
margarita	17

Work out how much ham pizza Kate should order.

Write down any assumption you make **and** explain how this could affect your answer.

.....

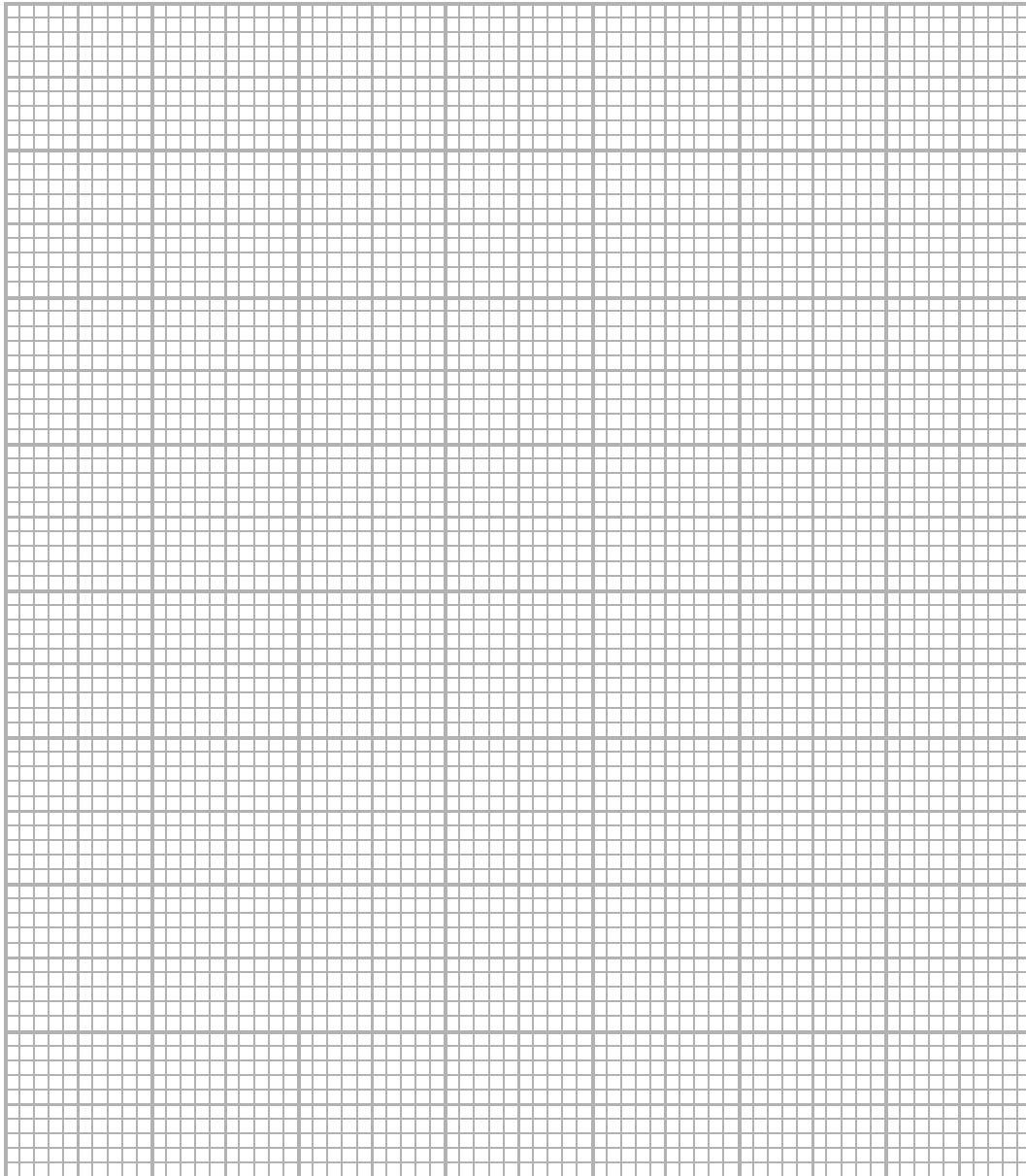
.....

(Total for Question 21 is 3 marks)

22 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 22 is 4 marks)

23 Complete the two-way table.

	blue eyes	brown eyes	green eyes	total
boys	5		4	12
girls		7		
total			9	30

(Total for Question 23 is 3 marks)

24 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
Female	8	5	5

(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.

..... %

(2)

(Total for Question 24 is 6 marks)

25 The table shows information about the ages of all the people at a party.

Age (years)	Frequency
11 – 20	6
21 – 30	16
31 – 40	10
41 – 50	8

(a) Work out the total number of these people who were aged 40 or less.

.....
(1)

Andy says that the range of ages is 39 years because $50 - 11 = 39$

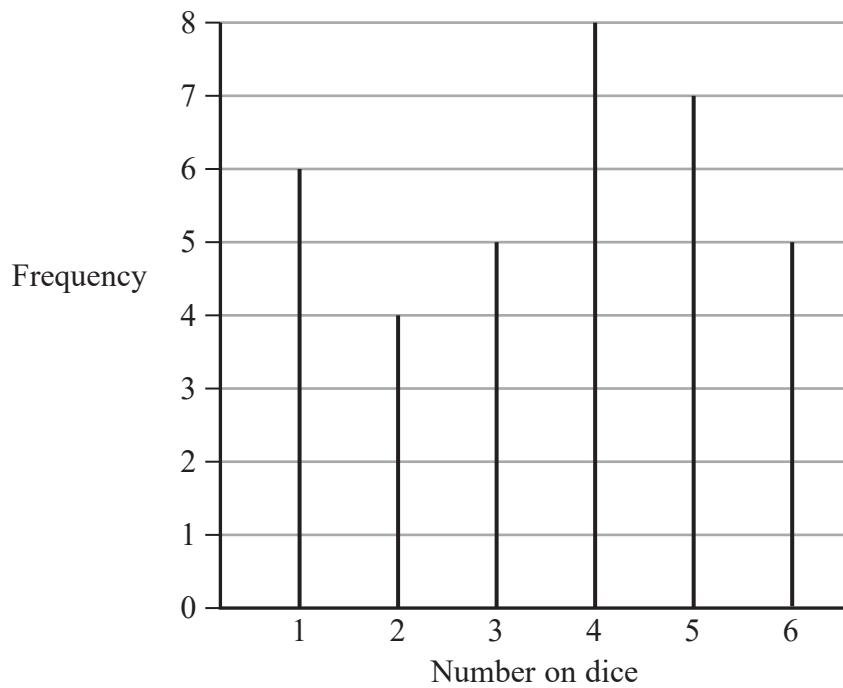
(b) The range may not be 39 years.
Explain why.

.....
.....
.....
(1)

(Total for Question 25 is 2 marks)

- 26 5 students throw a dice.
They each throw the dice the same number of times.

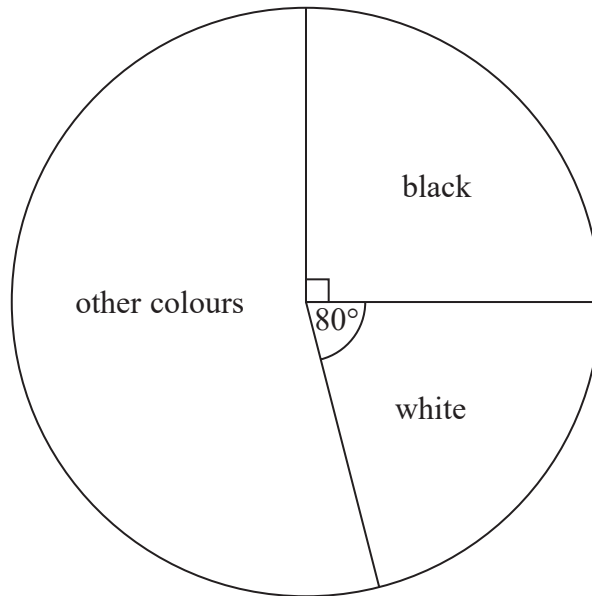
The diagram gives information about the number of times the dice lands on each number.



Work out how many times each student throws the dice.

.....
(Total for Question 26 is 3 marks)

27 The pie chart gives information about the colour of each car in a car park.



There are 135 black cars in the car park.

Work out the number of white cars in the car park.

.....
(3)

(Total for Question 27 is 3 marks)

28 The incomplete table gives some information about the lengths of the planks of wood in Ben's workshop.

Length of plank (metres)	Number of planks
3	5
2.5	8
2	
1.5	14
1	10

The total length of these planks is 92 metres.

Work out the number of planks of length 2 metres in Ben's workshop.

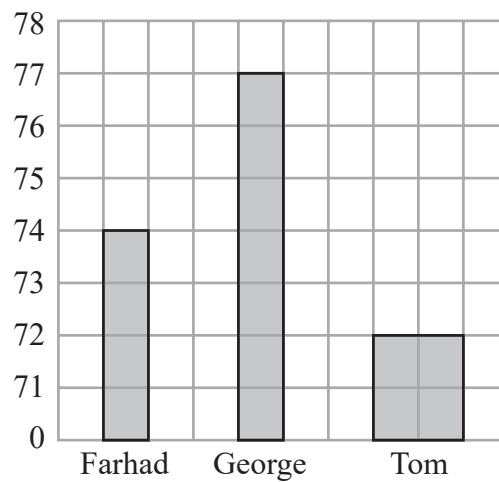
.....
(Total for Question 28 is 3 marks)

29 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.....
.....
.....

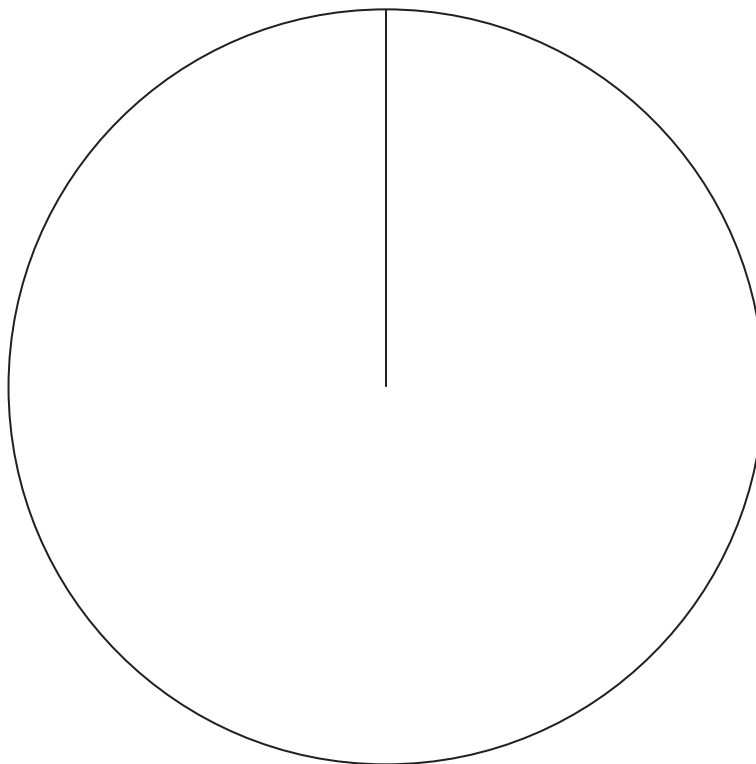
2.....
.....
.....

(Total for Question 29 is 2 marks)

30 The table gives information about the number of goals scored by each of three teams.

Team	Number of goals
City	50
Rovers	45
United	25

Draw an accurate pie chart for this information.



(Total for Question 30 is 3 marks)

31 Here is a list of numbers.

6 4 8 9 4 3

(a) Work out the median.

.....
(2)

Clara has five cards.

There is a number on each card.

Two of the numbers are hidden.

3	?	8	5	?
---	---	---	---	---

The mode of the five numbers is 3

The mean of the five numbers is 5

(c) Work out the two numbers that are hidden.

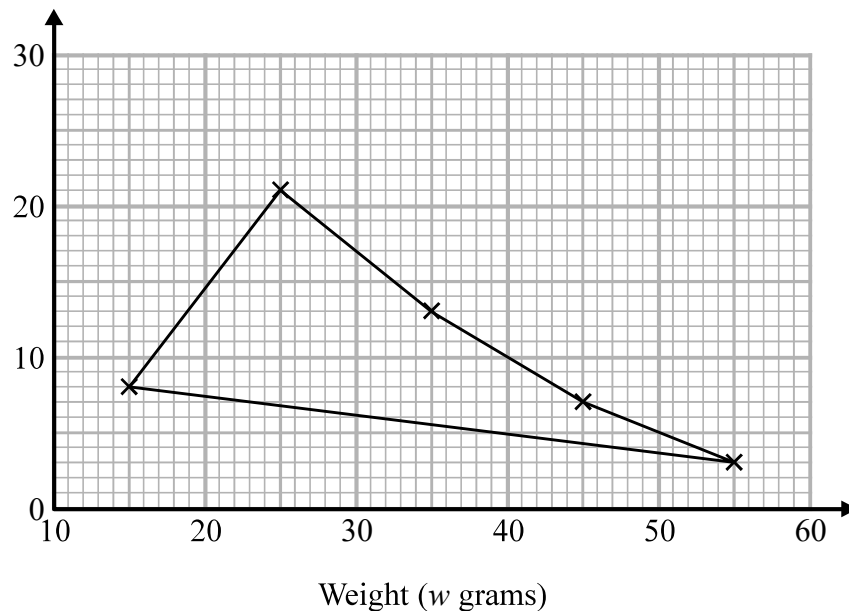
..... ,
(2)

(Total for Question 31 is 4 marks)

32 The table shows some information about the weights of 50 potatoes.

Weight (w grams)	Frequency
$10 < w \leq 20$	6
$20 < w \leq 30$	21
$30 < w \leq 40$	13
$40 < w \leq 50$	7
$50 < w \leq 60$	3

Iveta drew this frequency polygon for the information in the table.
The frequency polygon is **not** fully correct.



Write down **two** things that are wrong with the frequency polygon.

- 1.....
.....
- 2.....
.....

(Total for Question 32 is 2 marks)

33 Each person in a fitness club is going to get a free gift.
Stan is going to order the gifts.

Stan takes a sample of 50 people in the fitness club.
He asks each person to tell him the gift they would like.

The table shows information about his results.

Gift	Number of people
sports bag	17
gym towel	7
headphones	11
voucher	15

There are 700 people in the fitness club.

(i) Work out how many sports bags Stan should order.

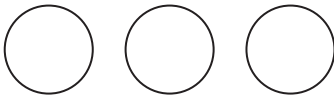
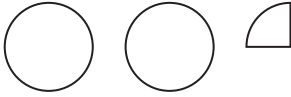
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(2)

(ii) Write down any assumption you made **and** explain how this could affect your answer.

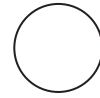
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.....
.....
.....
(1)

(Total for Question 33 is 3 marks)

34 The pictogram shows information about the number of vinyl records sold in a shop on Monday and on Tuesday.

Monday	
Tuesday	
Wednesday	
Thursday	

Key:



represents
8 vinyl records

(a) Write down the number of vinyl records sold

(i) on Monday,

.....
(1)

(ii) on Tuesday.

.....
(1)

On Wednesday and Thursday a total of 36 vinyl records were sold.

The number of records sold on Thursday was 8 times the number of records sold on Wednesday.

(b) Use this information to complete the pictogram.

(3)

(Total for Question 34 is 5 marks)

35 Hannah is planning a day trip for 195 students.

She asks a sample of 30 students where they want to go.
Each student chooses one place.

The table shows information about her results.

Place	Number of students
Theme Park	10
Theatre	5
Sports Centre	8
Seaside	7

(i) Work out how many of the 195 students you think will want to go to the Theme Park.

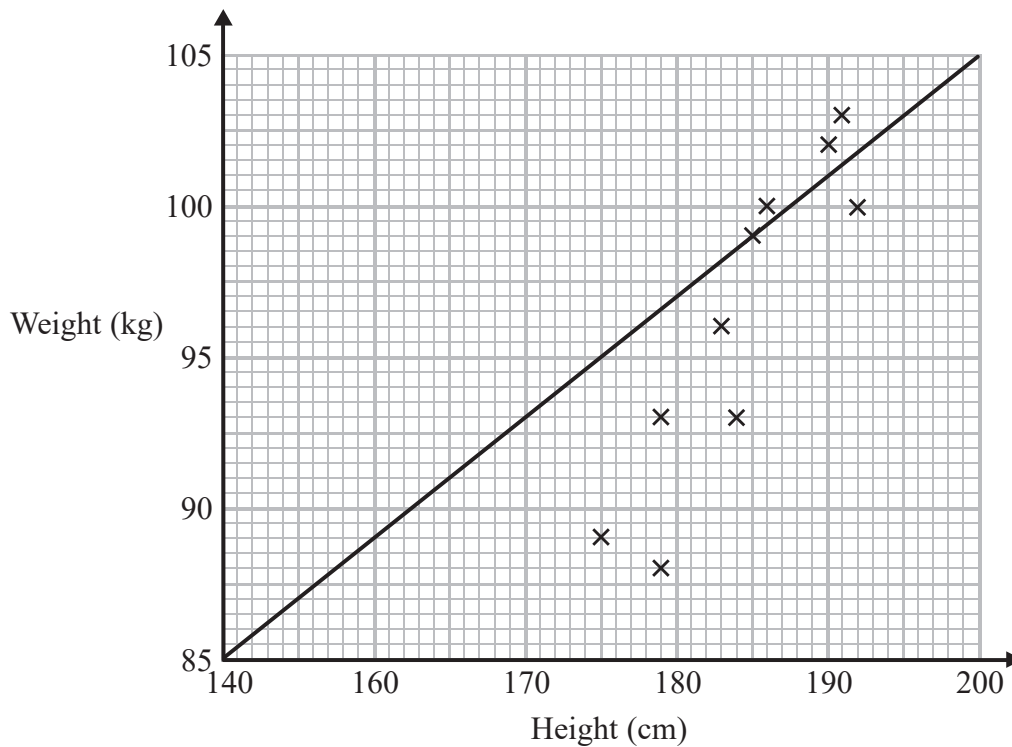
.....
(2)

(ii) State any assumption you made **and** explain how this may affect your answer.

.....
.....
.....
(1)

(Total for Question 35 is 3 marks)

36 Sean has information about the height, in cm, and the weight, in kg, of each of ten rugby players. He is asked to draw a scatter graph and a line of best fit for this information. Here is his answer.



Sean has plotted the points accurately.

Write down two things that are wrong with his answer.

- 1
- 2

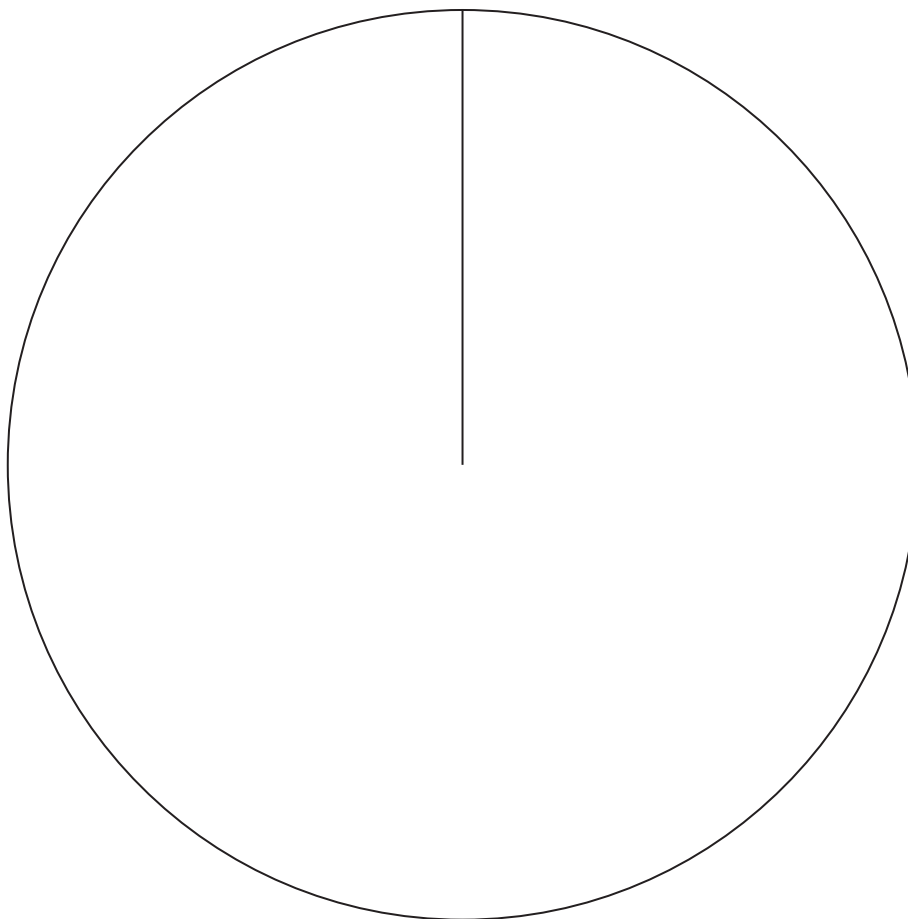
(Total for Question 36 is 2 marks)

37 A group of football fans were asked what their half time snack was.

The table below gives information about their answers.

Snack	Number of fans
burger	11
pie	17
hot dog	8

Draw an accurate pie chart for this information.



(Total for Question 37 is 3 marks)

38 Marla buys some bags of buttons.

There are 19 buttons or 20 buttons or 21 buttons or 22 buttons in each bag.

The table gives some information about the number of buttons in each bag.

Number of buttons	Frequency
19	.....
20	7
21	3
22	1

The total number of buttons is 320

Complete the table.

(Total for Question 38 is 3 marks)

39 60 students were asked how they get to school.

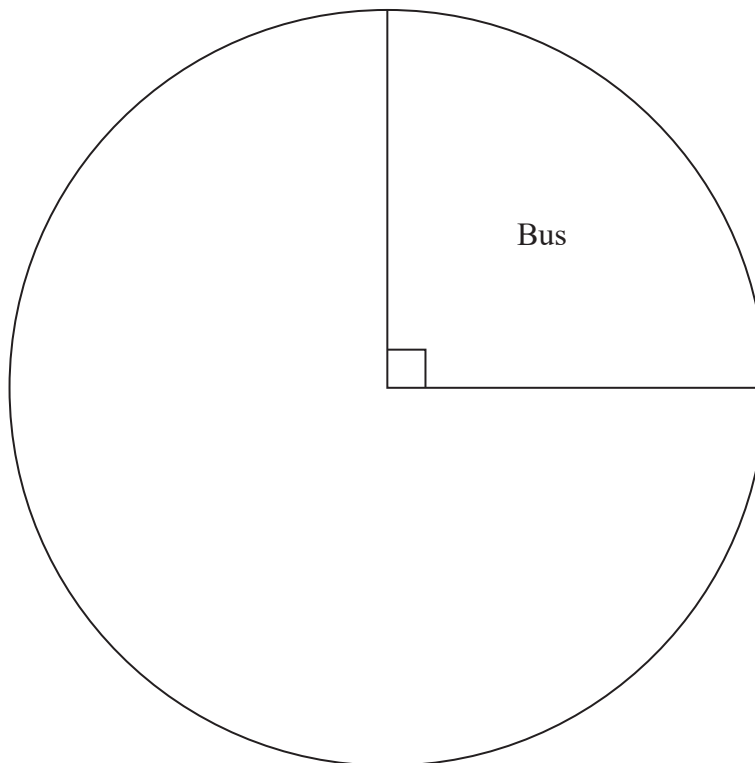
The table shows the results.

	Bus	Walk	Car	Bicycle
Number of students	15	27	12	6

(a) What fraction of the 60 students did **not** walk to school?

.....
(2)

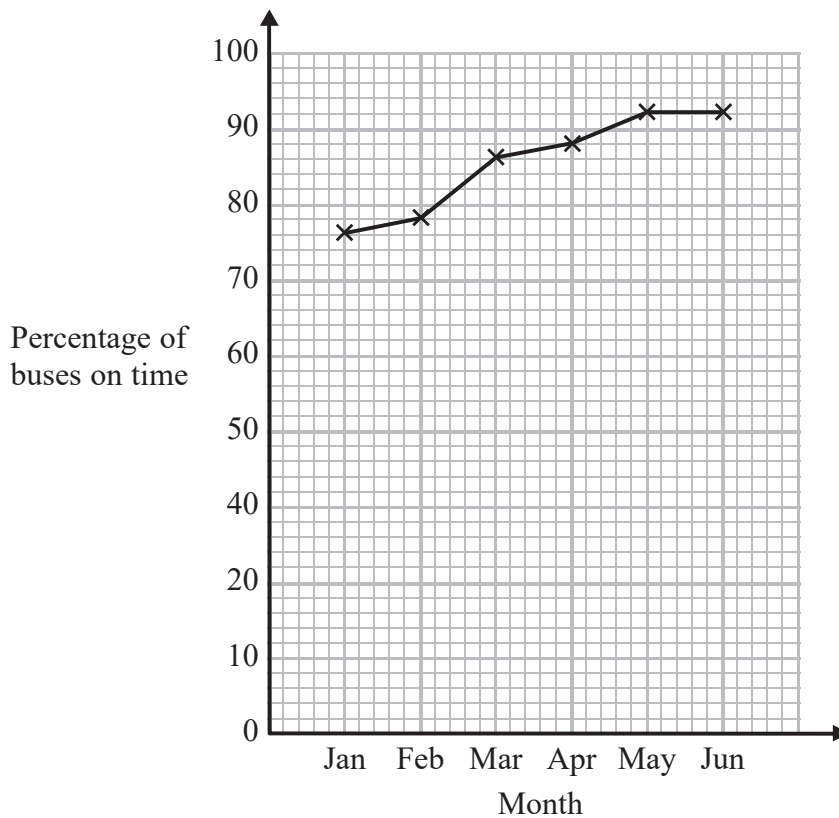
(b) Complete the pie chart for the information in the table.



(4)

(Total for Question 39 is 6 marks)

- 40 Chrissy drew this graph to show the percentage of buses that got to a bus stop on time for six months.



- (a) Write down **one** thing that is wrong with the graph.

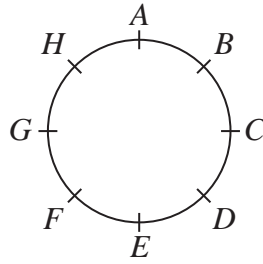
(1)

- (b) Describe the trend in the percentage of buses that got to the bus stop on time.

(1)

(Total for Question 40 is 2 marks)

41 Hasmeet walks once round a circle with diameter 80 metres.



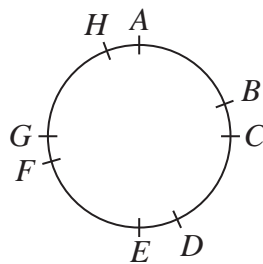
There are 8 points equally spaced on the circumference of the circle.

(a) Find the distance Hasmeet walks between one point and the next point.

.....m

(2)

Four of the points are moved, as shown in the diagram below.



Hasmeet walks once round the circle again.

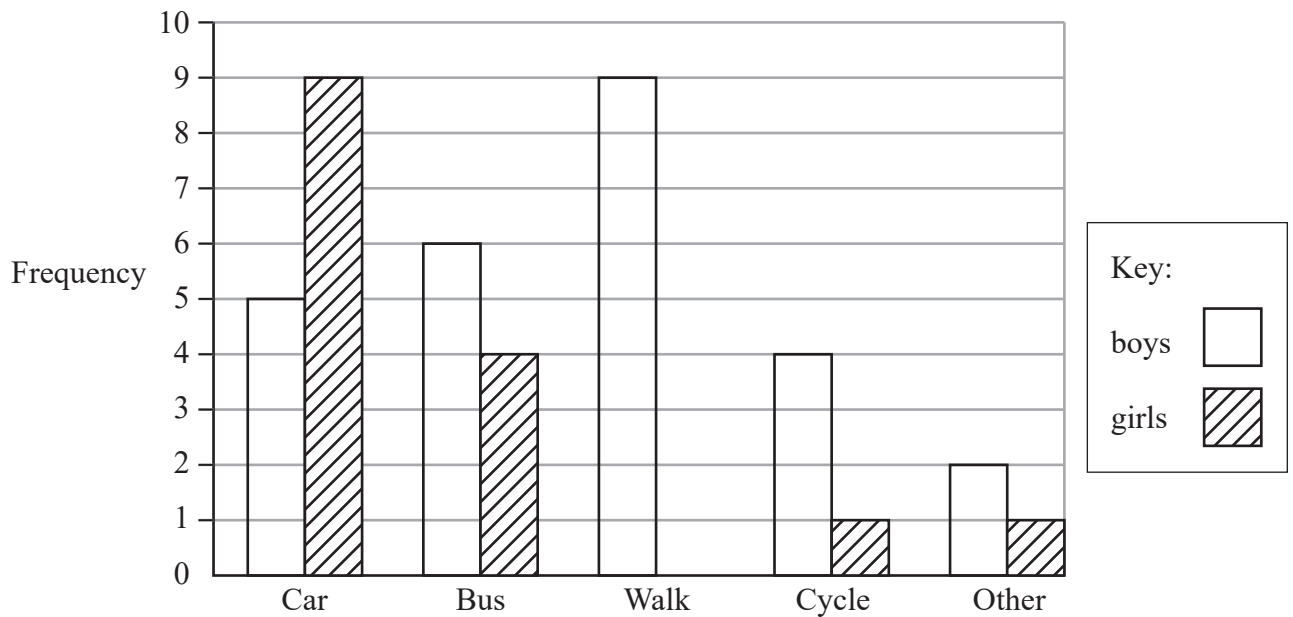
(b) Has the mean distance that Hasmeet walks between one point and the next point changed?
You must give a reason for your answer.

.....
.....

(1)

(Total for Question 41 is 3 marks)

- 42 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?

.....
(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?

.....
(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?

.....
(2)

(Total for Question 42 is 5 marks)

43 David sells CDs in a shop.

The tally chart shows information about the number of CDs David sold on Monday, on Tuesday and on Wednesday.

	Tally	Frequency
Monday	|||| |||	12
Tuesday	|||| ||| |||	18
Wednesday	||||	8

(a) Write down **one** thing that is wrong with the tally chart.

.....

.....

(1)

David drew this pictogram to show the information for Tuesday and Wednesday.

Tuesday	⊙ ⊙ ⊙ ⊙ ⊙
Wednesday	⊙ ⊙ ⊙

Key: ⊙ represents 3 CDs

(b) Write down **one** thing that is wrong with this pictogram.

.....

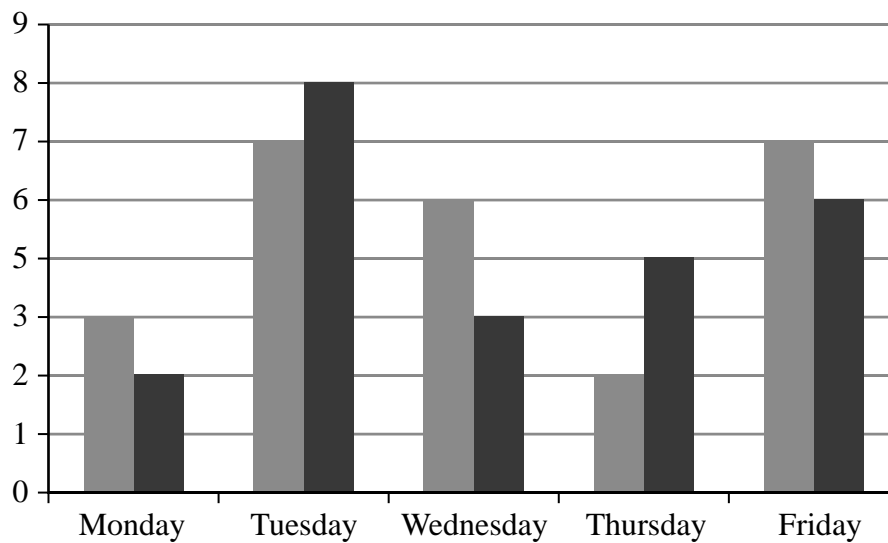
.....

(1)

(Total for Question 43 is 2 marks)

44 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
-
- 2
-
- 3
-

(Total for Question 44 is 3 marks)

45 Here is a list of numbers

12 19 12 15 11 15 12 13 17

Find the median.

.....
(Total for Question 45 is 2 marks)

46 The table shows some information about the foot lengths of 40 adults.

Foot length (f cm)	Number of adults
$16 \leq f < 18$	3
$18 \leq f < 20$	6
$20 \leq f < 22$	10
$22 \leq f < 24$	12
$24 \leq f < 26$	9

(a) Write down the modal class interval.

.....
(1)

(b) Calculate an estimate for the mean foot length.

..... cm
(3)

(Total for Question 46 is 4 marks)

69 The manager of a clothes shop recorded the size of each dress sold one morning.

10 10
12 12
14 14 14 14 14 14
16 16 16 16
18 18 18
20 20 20

The sizes of dresses are always even numbers.
The mean size of the dresses sold that morning is 15.3

The manager says,
“The mean size of the dresses is **not** a very useful average.”

(i) Explain why the manager is right.

.....
.....

(ii) Which is the more useful average for the manager to know, the median or the mode?
You must give a reason for your answer.

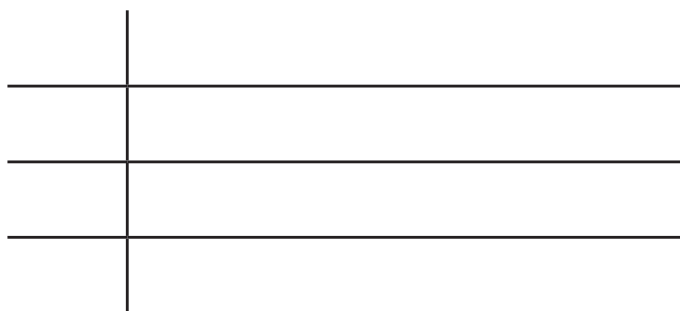
.....
.....
.....

(Total for Question 47 is 2 marks)

6: Here are the heights, in centimetres, of 15 children.

123	147	135	150	147
129	148	149	125	137
133	138	133	130	151

(a) Show this information in a stem and leaf diagram.



(3)

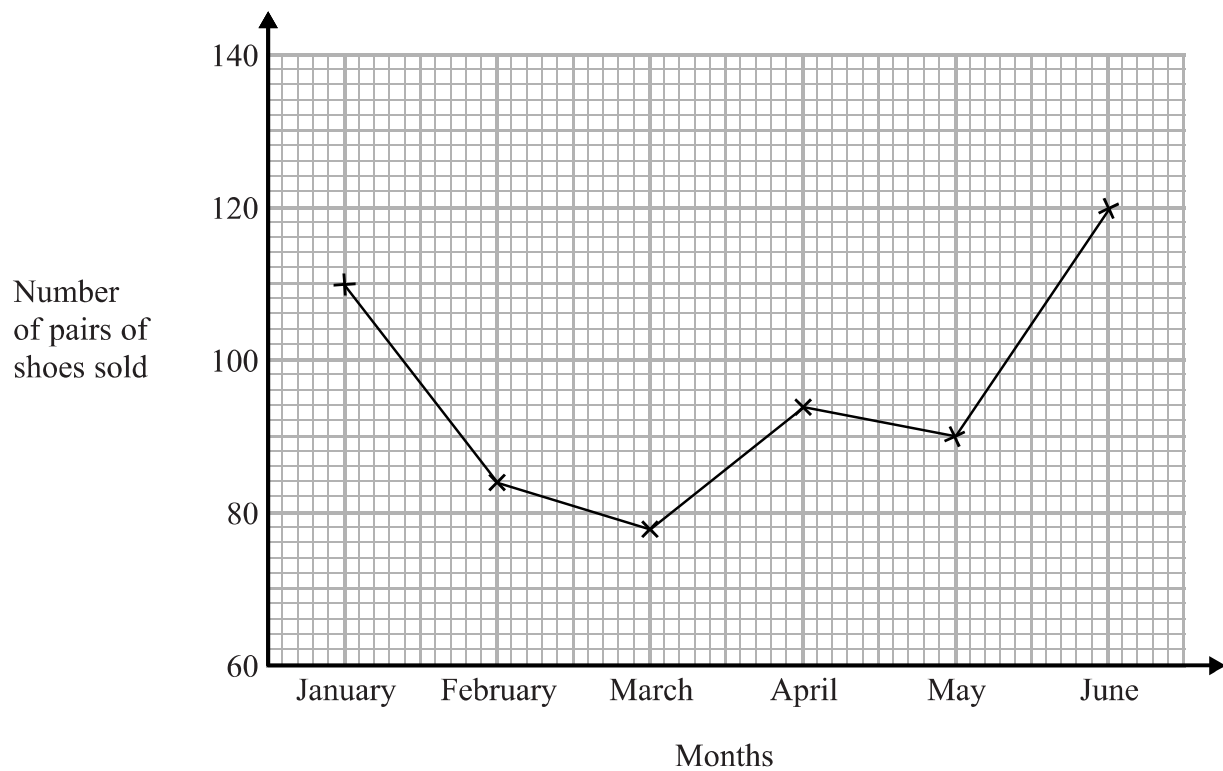
One of the children is chosen at random.

(b) What is the probability that this child has a height greater than 140 cm?

.....
(2)

(Total for Question 48 is 5 marks)

- 6; The time-series graph gives some information about the number of pairs of shoes sold in a shoe shop in the first six months of 2014



The sales target for the first six months of 2014 was to sell a mean of 96 pairs of shoes per month.

Did the shoe shop meet this sales target?
You must show how you get your answer.

(Total for Question 49 is 3 marks)

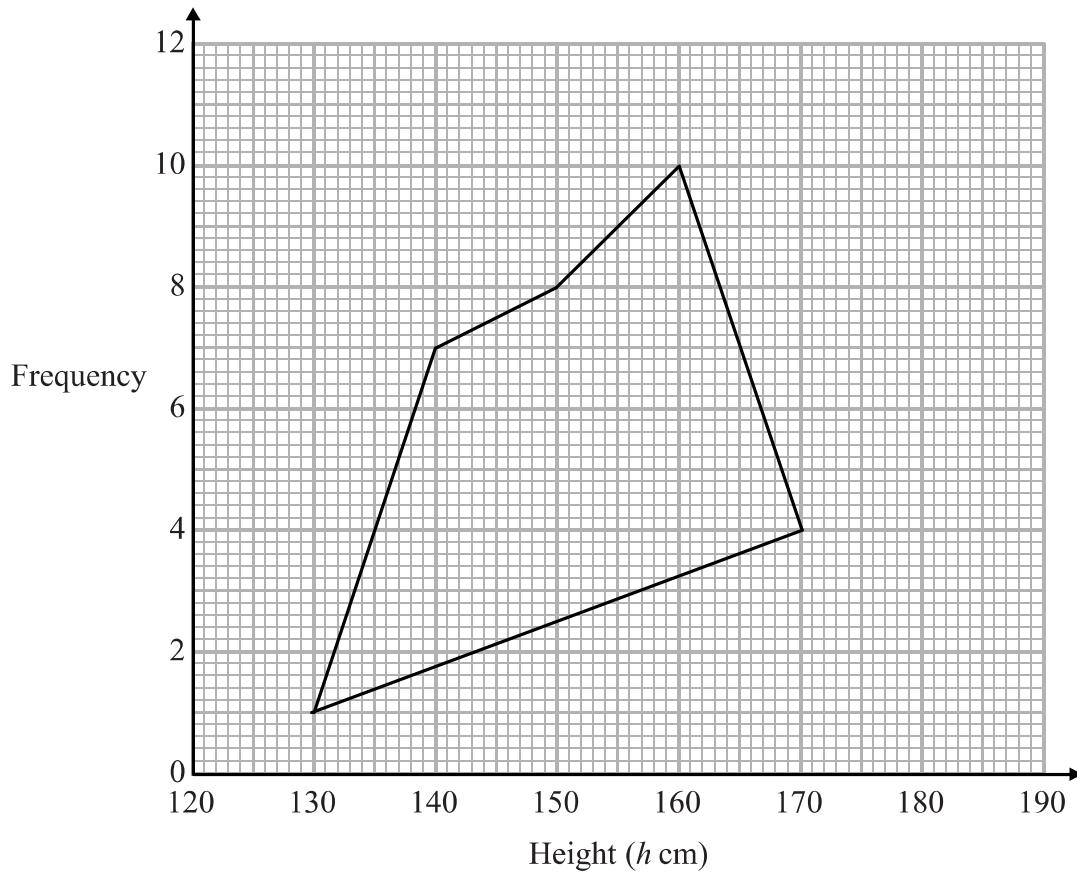
72 The grouped frequency table gives information about the heights of 30 students.

Height (h cm)	Frequency
$130 < h \leq 140$	1
$140 < h \leq 150$	7
$150 < h \leq 160$	8
$160 < h \leq 170$	10
$170 < h \leq 180$	4

(a) Write down the modal class interval.

.....
(1)

This incorrect frequency polygon has been drawn for the information in the table.



(b) Write down two things wrong with this incorrect frequency polygon.

1

2

(2)

(Total for Question 50 is 3 marks)

51 Rachel carried out a survey of 10 people to find out the type of fruit they like best.

The table gives information about her results.

Type of fruit	Number of people
apple	2
banana	5
orange	3

(a) Which type of fruit is the mode?

.....
(1)

In Rachel's survey, 2 out of 10 people like apples best.

(b) Write 2 out of 10 as a percentage.

.....%
(1)

Pete also carried out a survey to find out the type of fruit people like best. He asked 30 people which type of fruit they like best.

He drew this pie chart for his results.

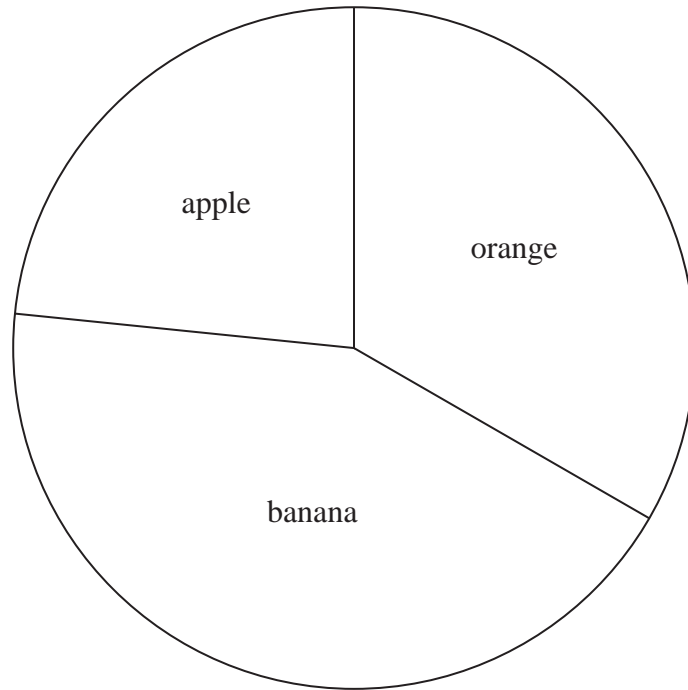


Diagram
accurately drawn

A smaller proportion of people like bananas best in Pete's survey than in Rachel's survey.

(c) Explain how Pete's pie chart and Rachel's table show this.

.....

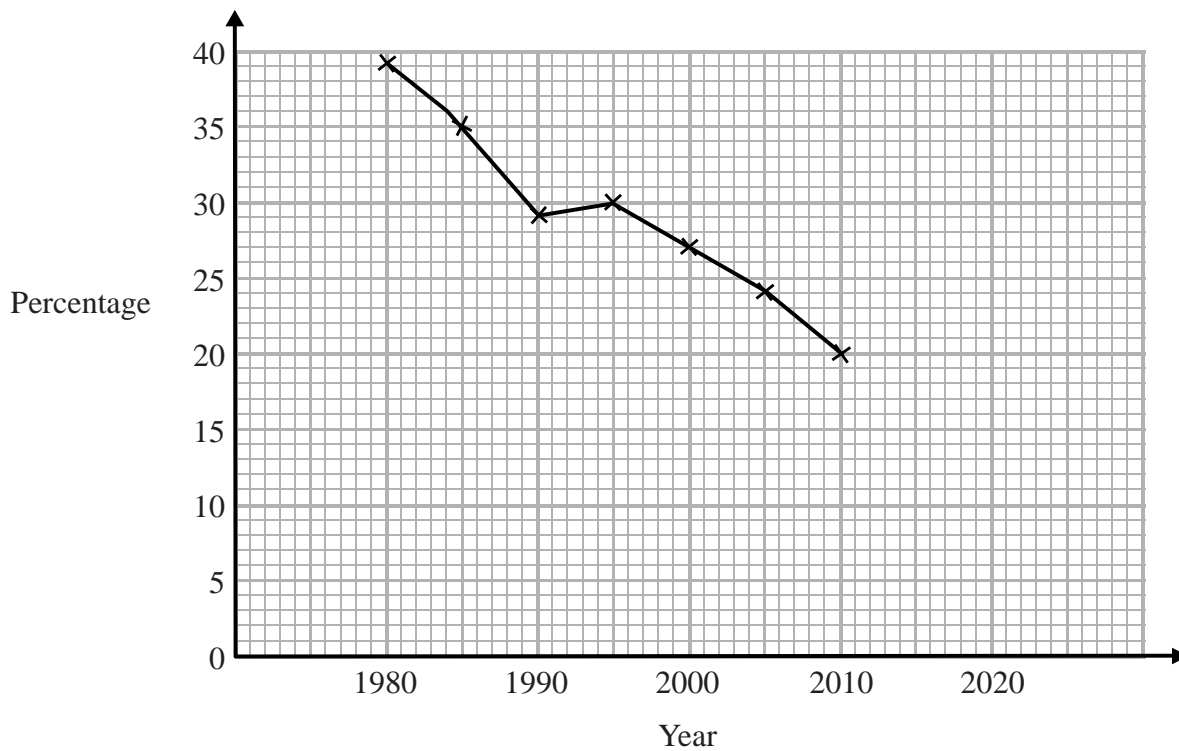
.....

.....

(2)

(Total for Question 51 is 4 marks)

52 The time series graph shows information about the percentages of the people in a village that used the village shop for the years between 1980 and 2010



(a) Describe the trend in the percentage of the people in the village who used the shop for this period.

(1)

(b) (i) Use the graph to predict the percentage of the people in the village likely to use the shop in the year 2020

.....%

(ii) Is your prediction reliable?
Explain your answer.

(3)

(Total for Question 52 is 4 marks)

53 Vadim has 56 clocks.
The clocks are only red, only blue or only black.

32 of the clocks are plastic.
5 of the 14 blue clocks are plastic.
8 of the 12 red clocks are **not** plastic.

Use this information to complete the two-way table.

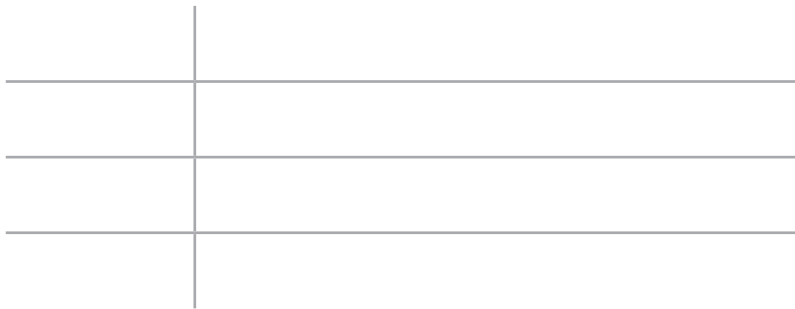
	Red	Blue	Black	Total
Plastic				
Not plastic				
Total				

(Total for Question 53 is 3 marks)

54 Here are the heights, in centimetres, of 15 plants.

15 20 25 33 17 22 25 18
22 19 32 35 24 28 19

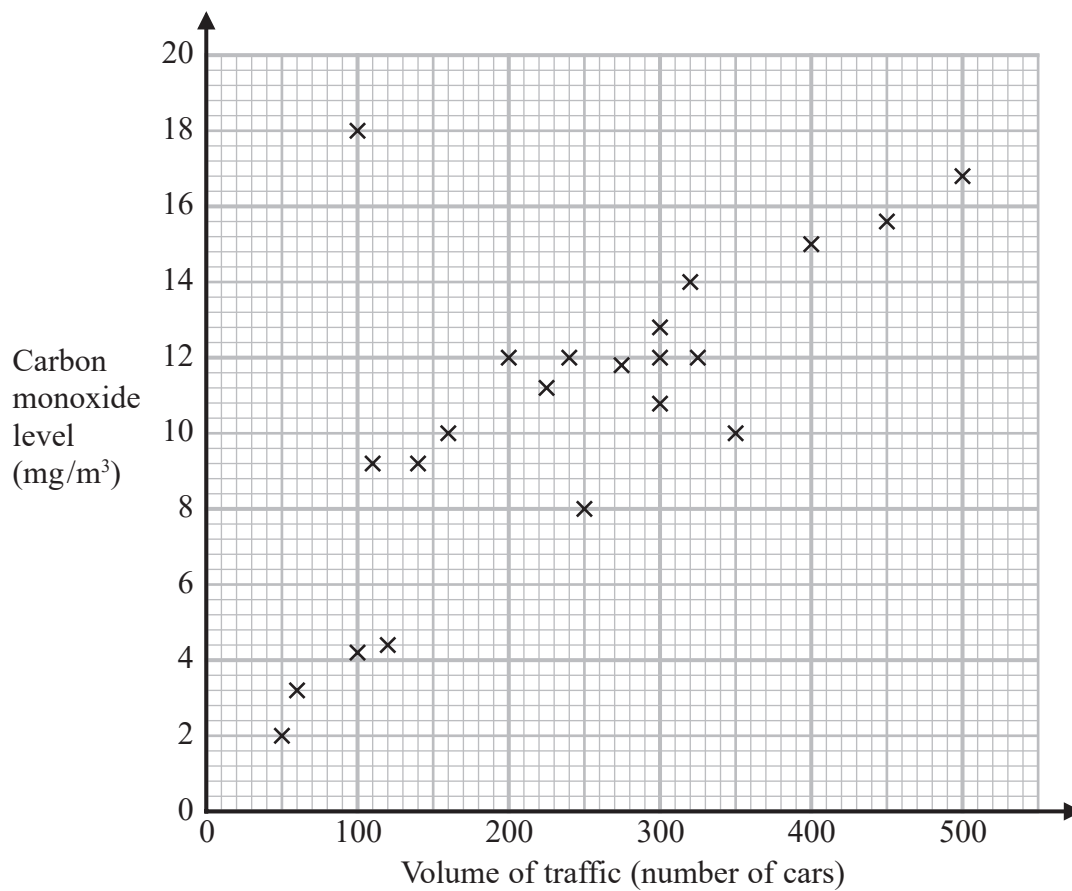
Draw a stem and leaf diagram for these heights.



Key:

(Total for Question 54 is 3 marks)

55 The scatter graph shows information about the volume of traffic and the carbon monoxide level at a point on a road each day for 22 days.



One point is an outlier.

(a) Write down the coordinates of this point.

(.....,)
(1)

For another day, 370 cars pass the point on the road.

(b) Estimate the carbon monoxide level for this day.

..... mg/m³
(2)

Alfie says,

“Because there is an outlier, there is no correlation.”

(c) Is Alfie correct?

You must give a reason for your answer.

.....

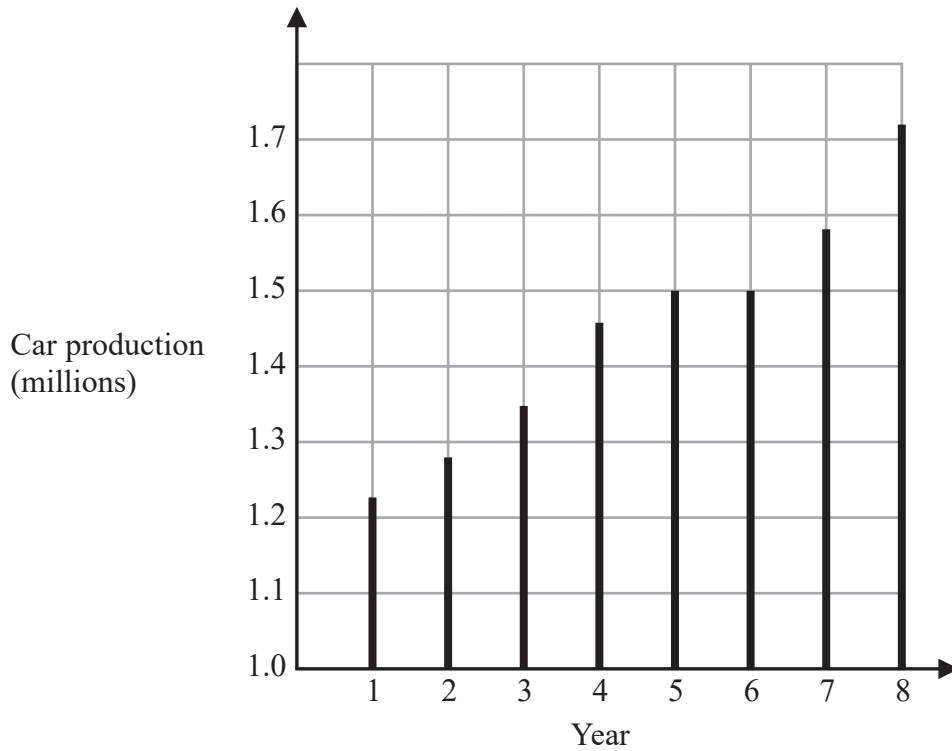
.....

.....

(1)

(Total for Question 55 is 4 marks)

56 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?

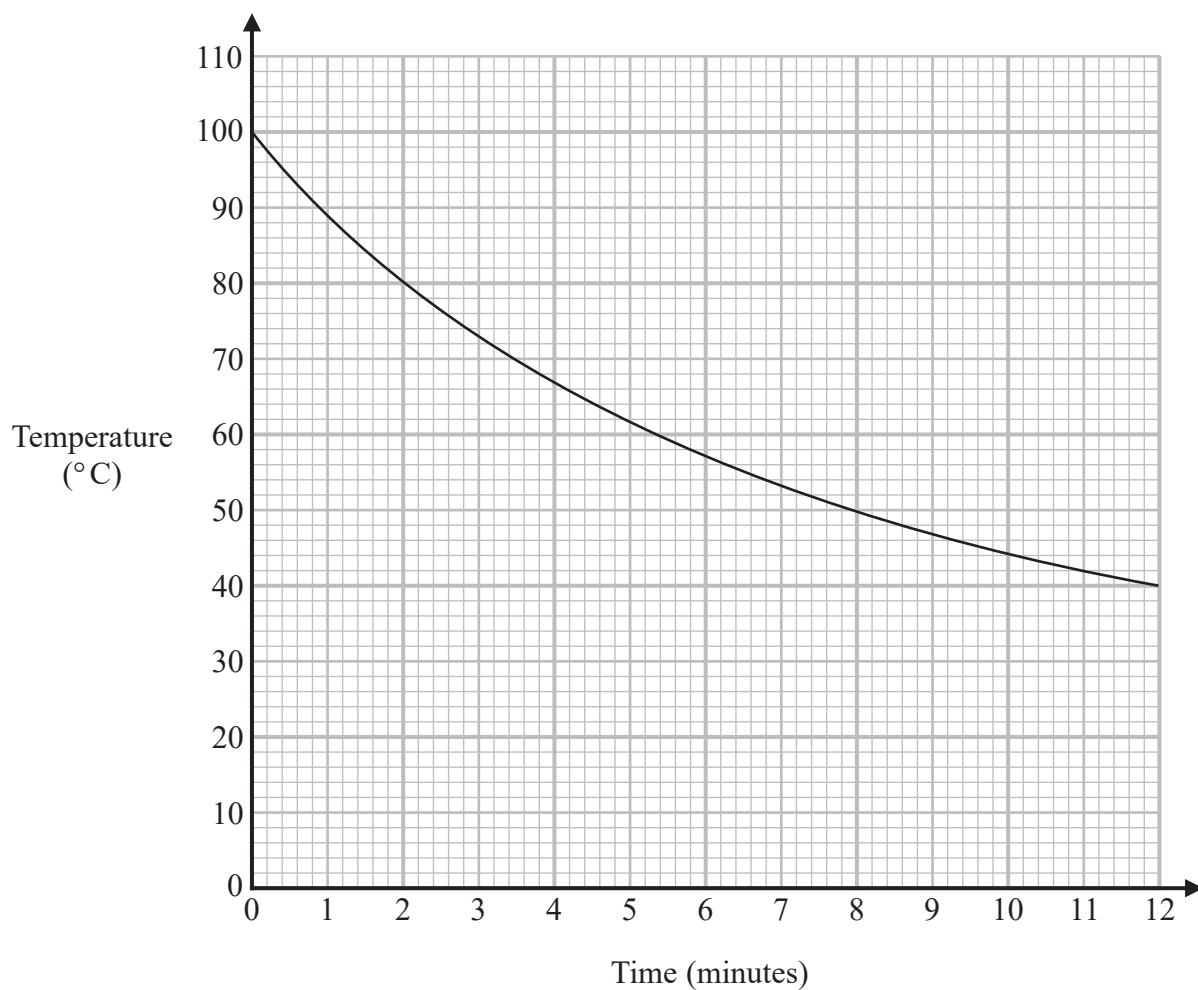
.....
(1)

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

.....
(1)

(Total for Question 56 is 2 marks)

57 The graph shows information about the time, in minutes, a liquid has been cooling and the temperature of the liquid in °C.



(a) What is the temperature of the liquid at time 2 minutes?

..... °C
(1)

Pam recorded the time when the liquid had a temperature of 50°C.

(b) Write down this time.

..... minutes
(1)

Pam says that the temperature of the liquid drops more in the first 3 minutes of cooling than it does between time 9 minutes and time 12 minutes.

(c) Is Pam correct?

Give a reason for your answer.

.....

.....

.....

(1)

(Total for Question 57 is 3 marks)

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

Here are her results.

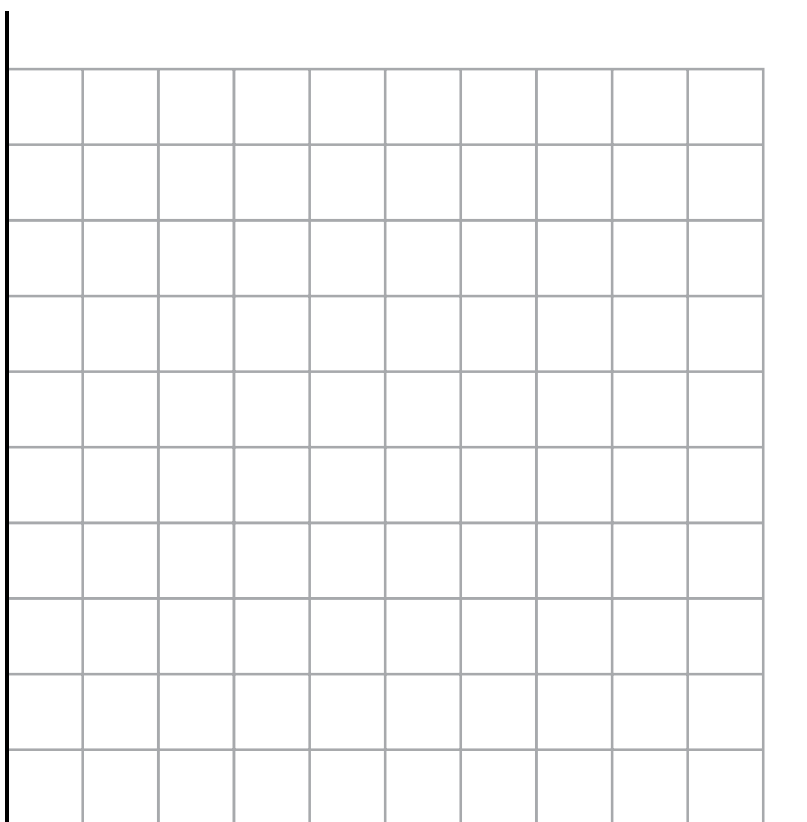
dog rabbit cat dog dog hamster
 cat dog rabbit hamster cat cat
 dog dog cat dog rabbit dog

(a) Complete the frequency table for this information.

Pet	Tally	Frequency
dog		
rabbit		
cat		
hamster		

(2)

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



(3)

(c) Write down the most popular pet.

.....
(1)

(Total for Question 58 is 6 marks)

59 The stem and leaf diagram below gives information about the ages of people in a social club.

3	1	4	5			
4	0	2	2	5	6	
5	0	1	7	7	8	9
6	3	4	5	9		
7	0	4				

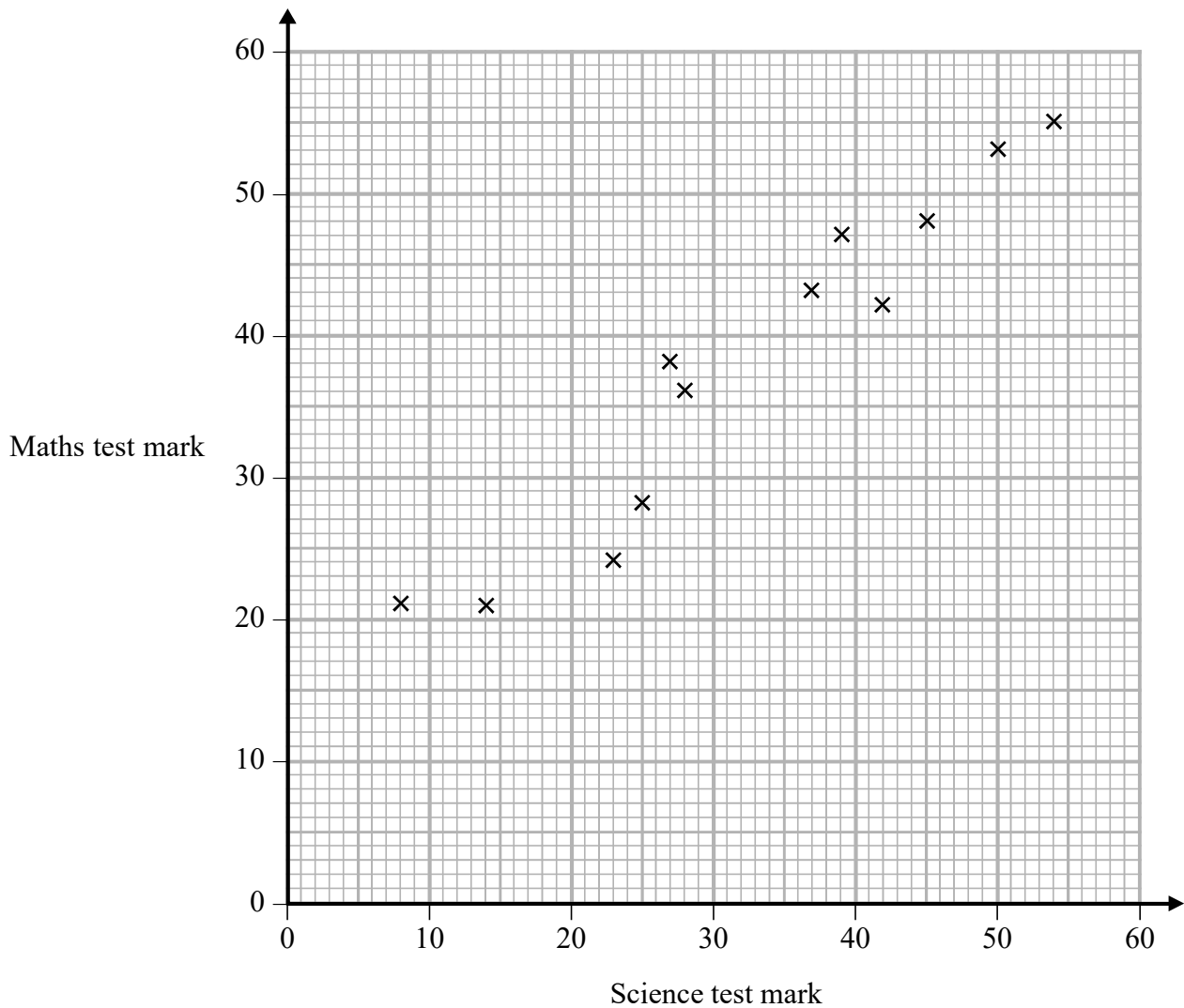
Key: 4|2 represents 42 years

Find the range of these ages.

..... years

(Total for Question 59 is 2 marks)

60 The scatter graph shows information about the marks a group of students got in a Science test and in a Maths test.



Jamie got a mark of 34 in the Science test.

Using the scatter graph, find an estimate for Jamie's mark in the Maths test.

.....
(Total for Question 60 is 2 marks)

61 The table gives information about the times taken, in seconds, by 18 students to run a race.

Time (t seconds)	Frequency
$5 < t \leq 10$	1
$10 < t \leq 15$	2
$15 < t \leq 20$	7
$20 < t \leq 25$	8

Work out an estimate for the mean time.

Give your answer correct to 3 significant figures.

..... seconds

(Total for Question 61 is 3 marks)

62 The table shows information about the numbers of points scored by 30 students in a quiz.

Number of points	Frequency
0	4
1	3
2	7
3	5
4	6
5	5

(a) Find the modal number of points.

.....
(1)

(b) Work out the total number of points scored.

.....
(2)

(Total for Question 62 is 3 marks)

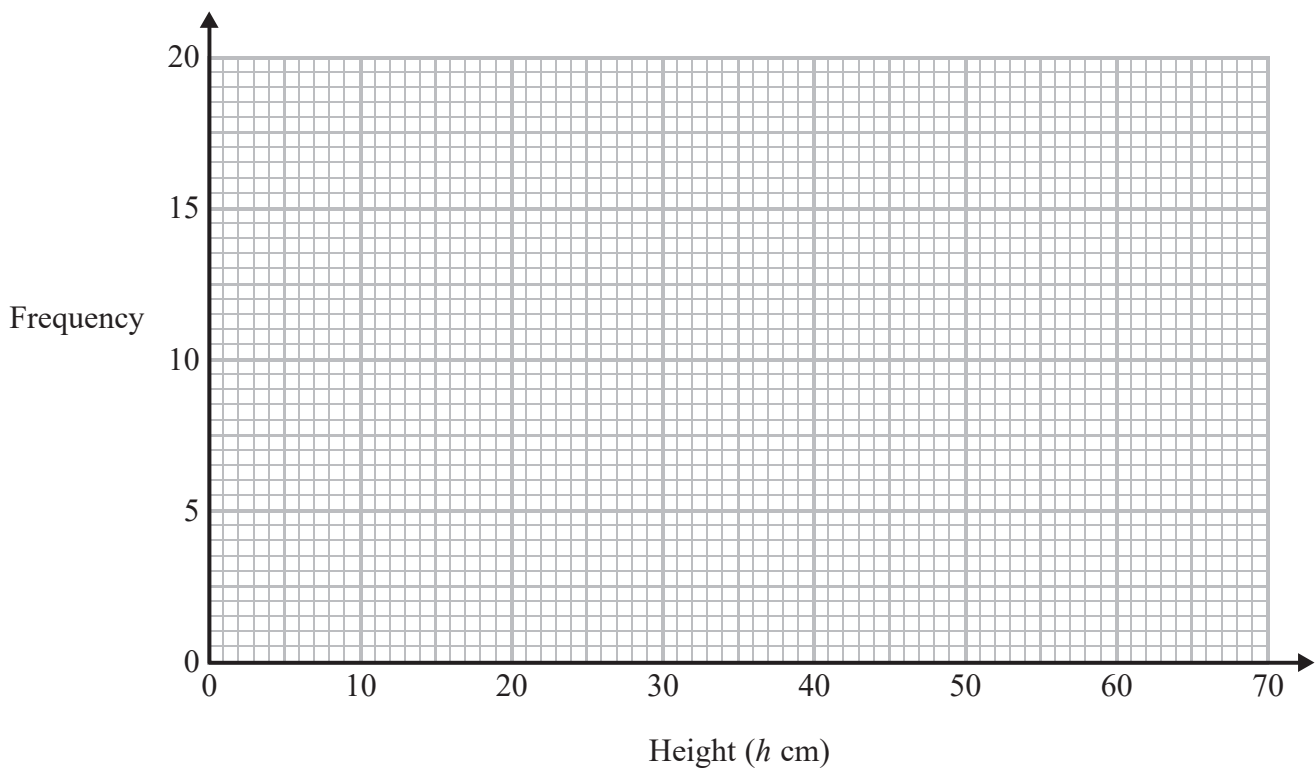
63 The table shows information about the heights of 80 plants.

Height (h cm)	Frequency
$10 < h \leq 20$	7
$20 < h \leq 30$	13
$30 < h \leq 40$	14
$40 < h \leq 50$	12
$50 < h \leq 60$	16
$60 < h \leq 70$	18

(a) Find the class interval that contains the median.

.....
(1)

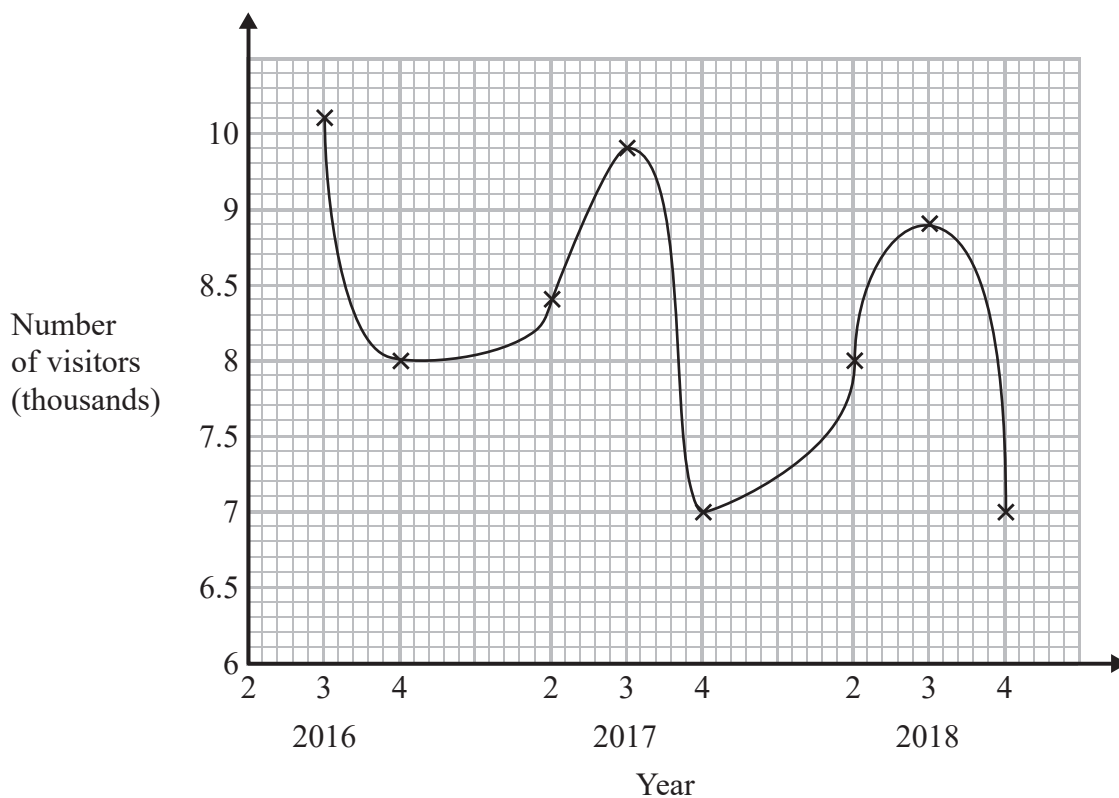
(b) On the grid, draw a frequency polygon for the information in the table.



(2)

(Total for Question 63 is 3 marks)

64 Sean has drawn a time series graph to show the numbers, in thousands, of visitors to a fun park.



Write down two things that are wrong or could be misleading with this graph.

1

.....

.....

2

.....

.....

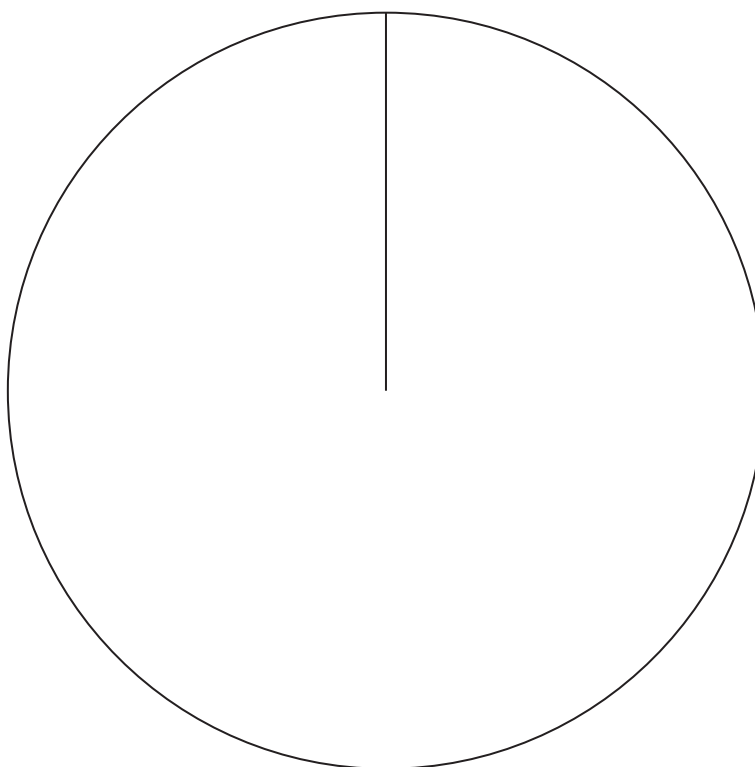
(Total for Question 64 is 2 marks)

65 Joan asked each of 60 people to name their favourite vegetable.

Here are her results.

Vegetable	Frequency
Peas	24
Carrots	16
Mushrooms	20

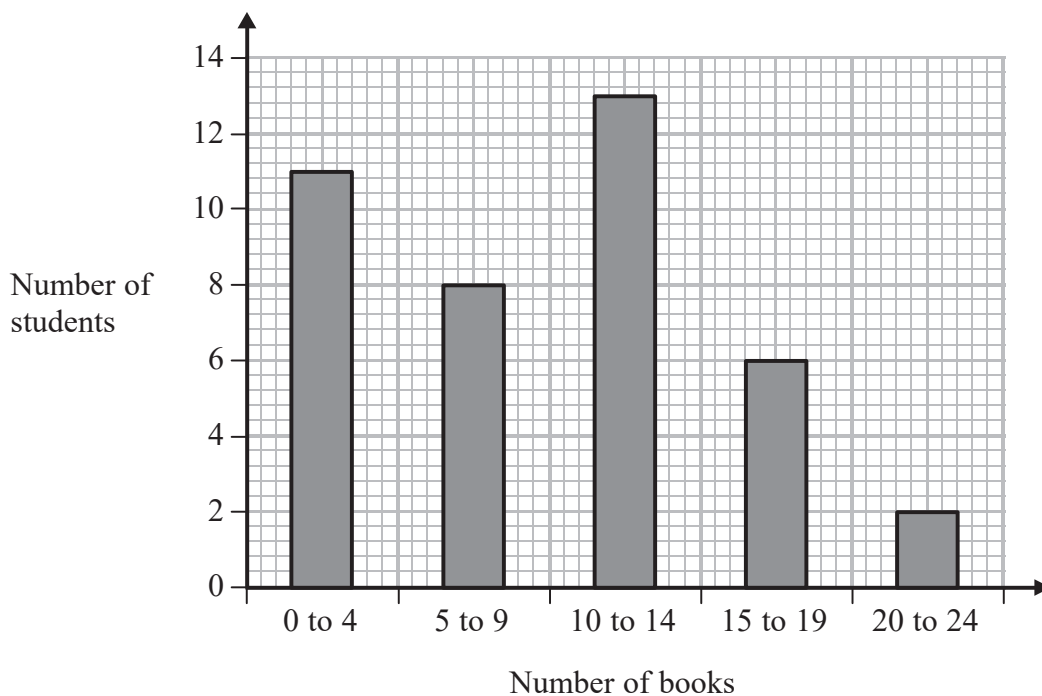
Draw an accurate pie chart for her results.



(Total for Question 65 is 3 marks)

66 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.

.....%
(2)

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

(4)

(Total for Question 66 is 6 marks)

67 Here are the marks 20 students got in a French test.

76 82 84 69 80 64 70 81 75 91
87 67 80 70 94 76 81 69 71 77

(a) Show this information in a stem and leaf diagram.



(3)

One of these students is going to be chosen at random.

The pass mark in the French test is 71

Omar writes,

The probability that this student failed the French test is $\frac{1}{4}$

Omar is wrong.

(b) Explain why.

(2)

(Total for Question 67 is 5 marks)

68 Jenny is asked to find the value of $12 - 2 \times 4$

Here is her working.

$$12 - 2 \times 4 = 10 \times 4 = 40$$

Jenny's answer is wrong.

(a) Explain what Jenny has done wrong.

.....
.....
(1)

Rehan is asked to find the range of the numbers 3 1 8 7 5

Here is his working.

$$\text{Range} = 5 - 3 = 2$$

This is wrong.

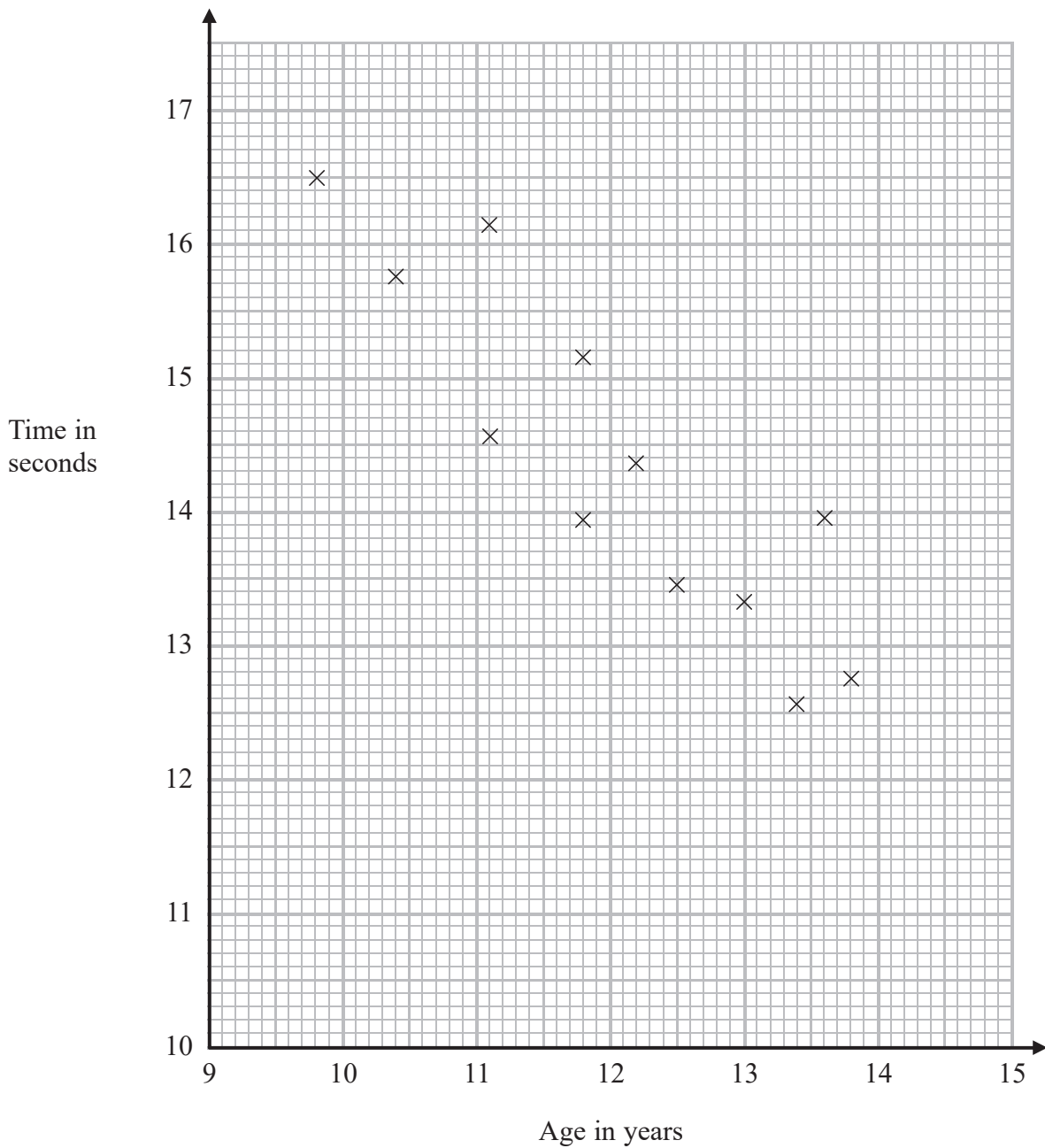
(b) Explain why.

.....
.....
(1)

(Total for Question 68 is 2 marks)

69 The scatter diagram shows information about 12 girls.

It shows the age of each girl and the best time she takes to run 100 metres.



(a) Write down the type of correlation.

..... (1)

Kristina is 11 years old.
Her best time to run 100 metres is 12 seconds.

The point representing this information would be an outlier on the scatter diagram.

(b) Explain why.

.....
.....
(1)

Debbie is 15 years old.

Debbie says,




“The scatter diagram shows I should take less than 12 seconds to run 100 metres.”

(c) Comment on what Debbie says.

.....
.....
(1)

(Total for Question 69 is 3 marks)

70 The incomplete pictogram shows information about the number of cycles sold in a shop on Tuesday, on Wednesday and on Thursday.

Tuesday	
Wednesday	
Thursday	
Friday	
Saturday	

Key:

A total of 20 cycles were sold on Tuesday, Wednesday and Thursday.

8 cycles were sold on Friday.

15 cycles were sold on Saturday.

Use this information to complete the pictogram.

(Total for Question 70 is 3 marks)

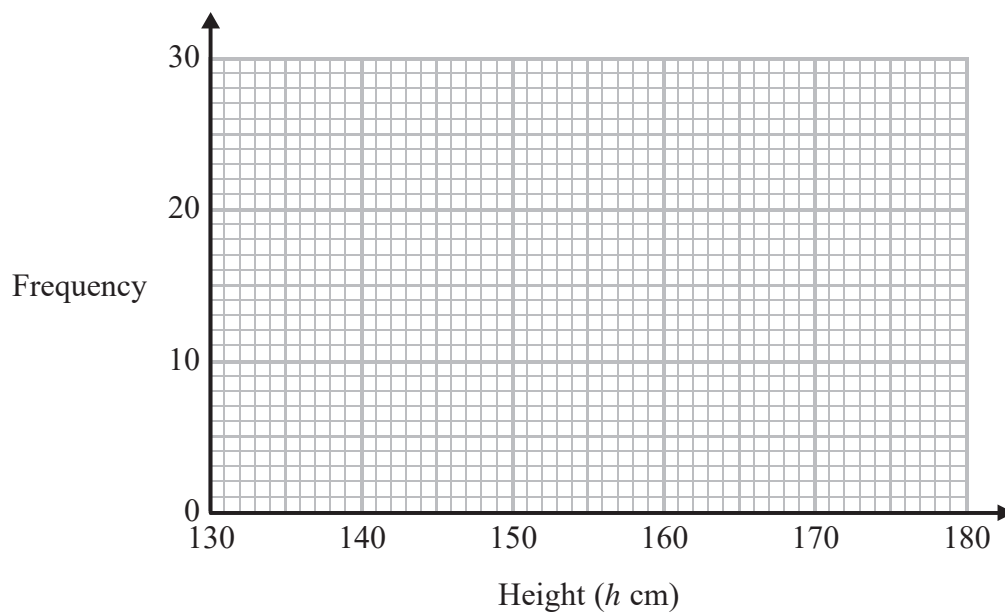
71 The table shows information about the heights of 80 children.

Height (h cm)	Frequency
$130 < h \leq 140$	4
$140 < h \leq 150$	11
$150 < h \leq 160$	24
$160 < h \leq 170$	22
$170 < h \leq 180$	19

(a) Find the class interval that contains the median.

.....
(1)

(b) Draw a frequency polygon for the information in the table.



(2)

(Total for Question 71 is 3 marks)

72 Here is a list of numbers.

12 15 14 17 22 19 13

Bridgit says,

“To work out the median you find the middle number,
so the median of these numbers is 17”

Bridgit’s answer is **not** correct.

(a) What is wrong with Bridgit’s method?

.....
.....
(1)

(b) Work out the range of the numbers in the list.

.....
(2)

(c) Work out the mean of the numbers in the list.

.....
(2)

(Total for Question 72 is 5 marks)

95" The table shows some information about the dress sizes of 25 women.

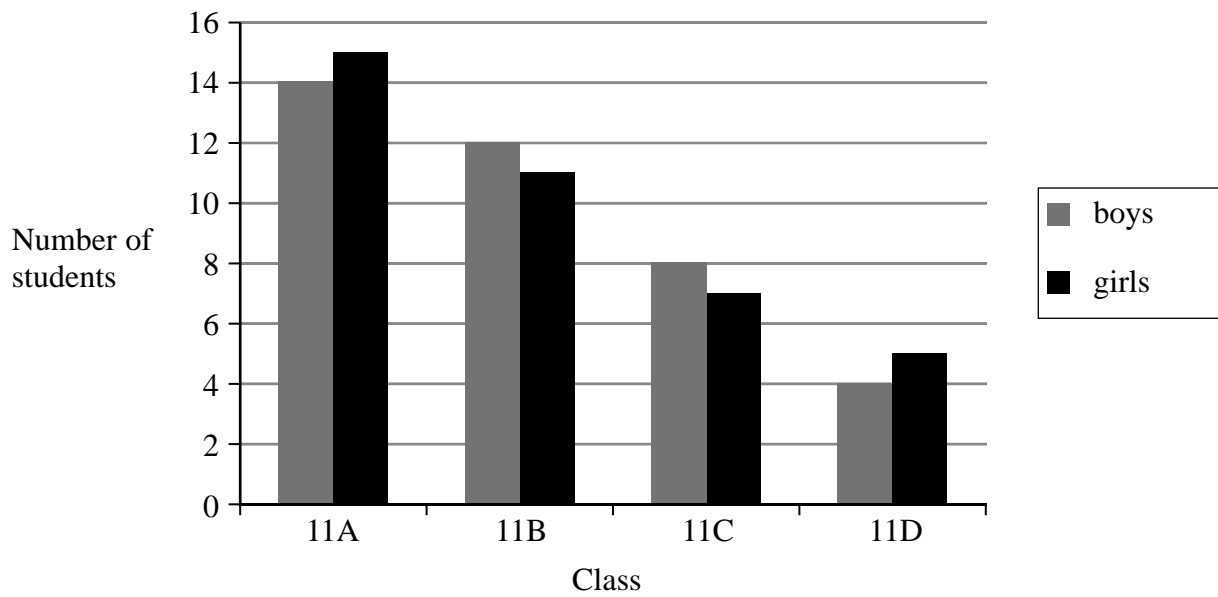
Dress size	Number of women
8	2
10	9
12	8
14	6

Find the median dress size.

.....
(1)

(Total for Question 73 is 1 marks)

- 74 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?

.....
(2)

Shola says,

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

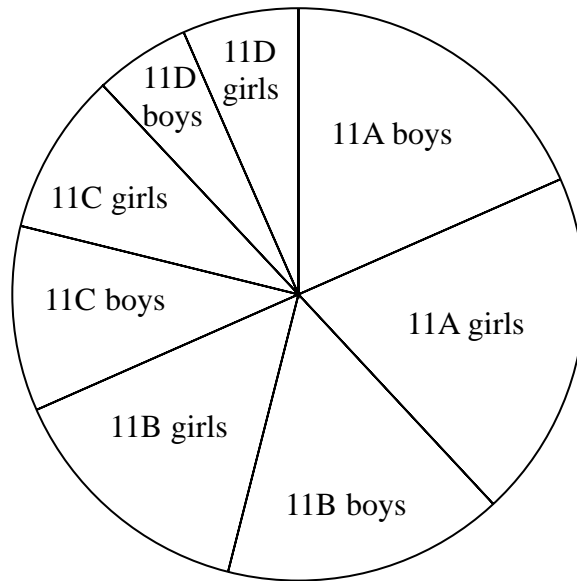
- (b) Is Shola correct?

You must give a reason for your answer.

.....
.....
(2)

The pie chart gives information about the 76 students in the same four Year 11 classes at Trowton School.

Number of students in Year 11 of Trowton School



Tolu says,

“It is more difficult to find out the numbers of students in each class from the pie chart than from the bar chart.”

(c) Is Tolu correct?

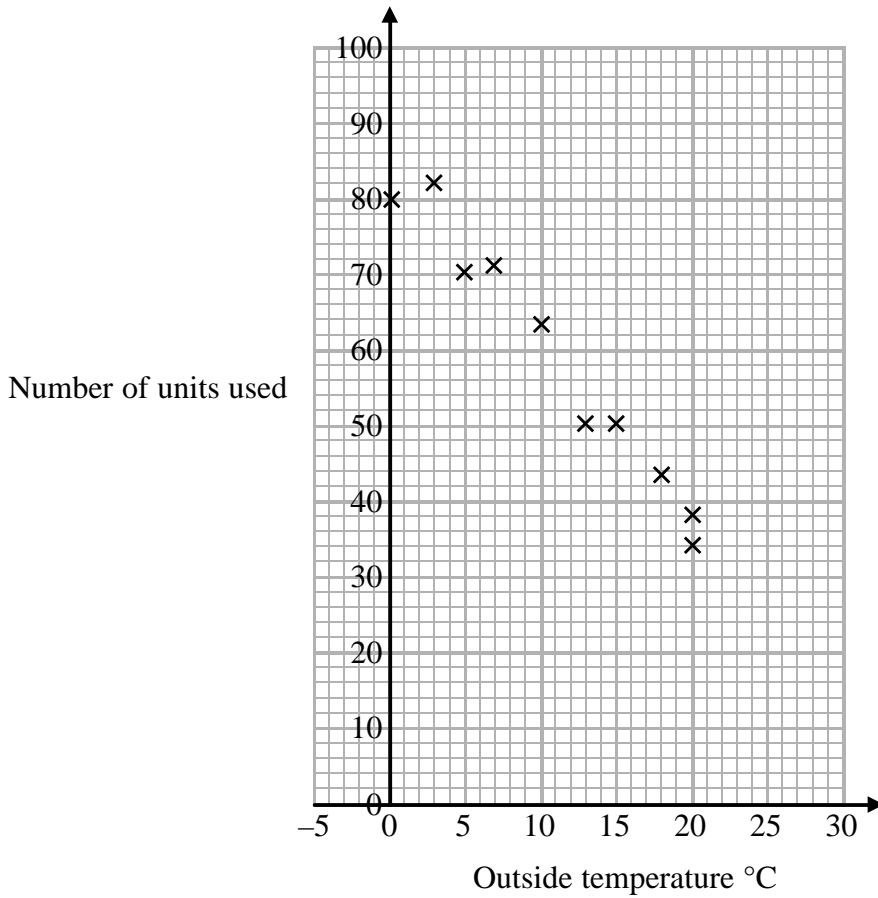
You must give a reason for your answer.

(1)

(Total for Question 74 is 5 marks)

75 In a survey, the outside temperature and the number of units of electricity used for heating were recorded for ten homes.

The scatter diagram shows this information.



Molly says,

“On average the number of units of electricity used for heating decreases by 4 units for each °C increase in outside temperature.”

(a) Is Molly right?

Show how you get your answer.

(3)

(b) You should **not** use a line of best fit to predict the number of units of electricity used for heating when the outside temperature is 30°C.

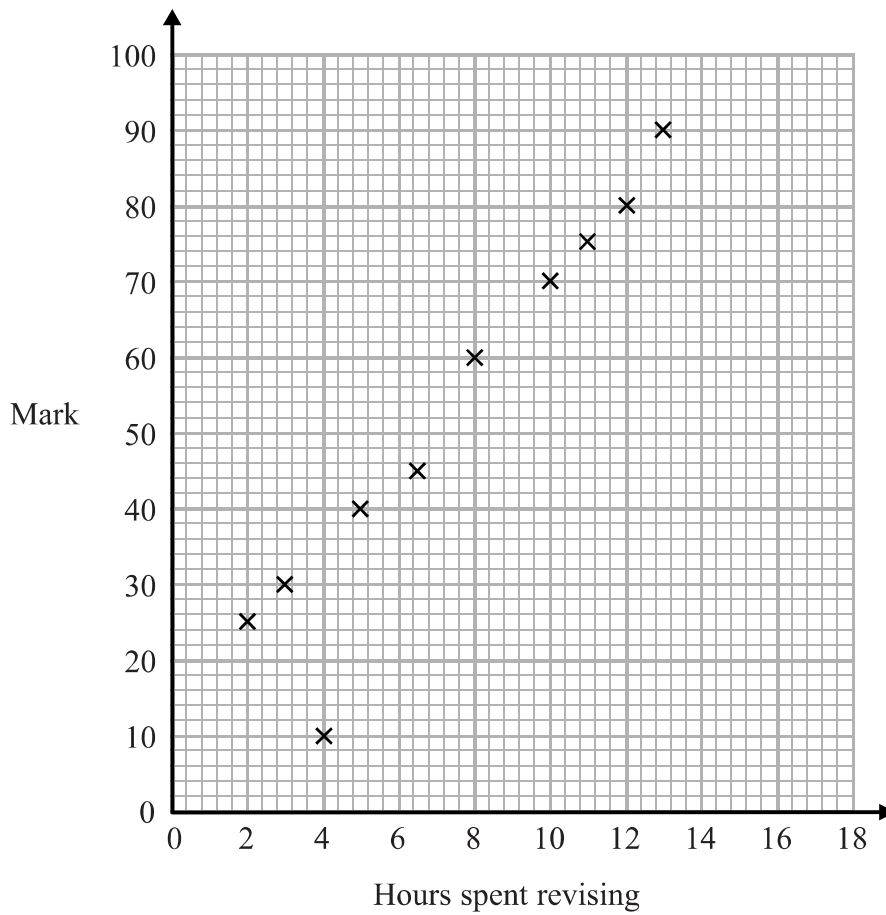
Give one reason why.

(1)

(Total for Question 75 is 4 marks)

78 The scatter diagram shows information about 10 students.

For each student, it shows the number of hours spent revising and the mark the student achieved in a Spanish test.



One of the points is an outlier.

(a) Write down the coordinates of the outlier.

.....
(1)

For all the **other** points

- (b) (i) draw the line of best fit,
- (ii) describe the correlation.

.....
.....
(2)

A different student revised for 9 hours.

- (c) Estimate the mark this student got

.....
(1)

The Spanish test was marked out of 100

Lucia says,

“I can see from the graph that had I revised for 18 hours I would have got full marks.”

- (d) Comment on what Lucia says.

.....
.....
(1)

(Total for Question 76 is 5 marks)

99 Jenny works in a shop that sells belts.

The table shows information about the waist sizes of 50 customers who bought belts from the shop in May.

Belt size	Waist (w inches)	Frequency
Small	$28 < w \leq 32$	24
Medium	$32 < w \leq 36$	12
Large	$36 < w \leq 40$	8
Extra Large	$40 < w \leq 44$	6

(a) Calculate an estimate for the mean waist size.

.....inches
(3)

Belts are made in sizes Small, Medium, Large and Extra Large.

Jenny needs to order more belts in June.

The modal size of belts sold is Small.

Jenny is going to order $\frac{3}{4}$ of the belts in size Small.

The manager of the shop tells Jenny she should **not** order so many Small belts.

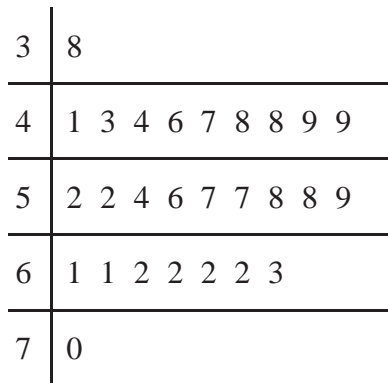
(b) Who is correct, Jenny or the manager?

You must give a reason for your answer.

.....
.....
(2)

(Total for Question 77 is 5 marks)

78 The stem and leaf diagram gives information about the speeds of 27 cars.



Key:
 $3|8$ means 38 miles per hour

(a) Find the median speed.

..... miles per hour
 (1)

(b) Work out the range.

..... miles per hour
 (1)

One of the cars is chosen at random.

Jack says,

“The probability that the speed of this car is more than 60 miles per hour is $\frac{1}{3}$ ”

(c) Jack is wrong.
 Explain why.

.....

 (2)

(Total for Question 78 is 4 marks)

79 Ross rolled an ordinary dice 30 times.

The frequency table gives information about his results.

Score	Frequency
1	7
2	5
3	4
4	4
5	6
6	4

Ross worked out the mean score as 8

(a) Explain why it is impossible for the mean score to be 8

.....
.....
(1)

Graham also worked out the mean score.

Here is his working.

$$1 \times 7 + 2 \times 5 + 3 \times 4 + 4 \times 4 + 5 \times 6 + 6 \times 4 = 99$$

$$99 \div 6 = 16.5$$

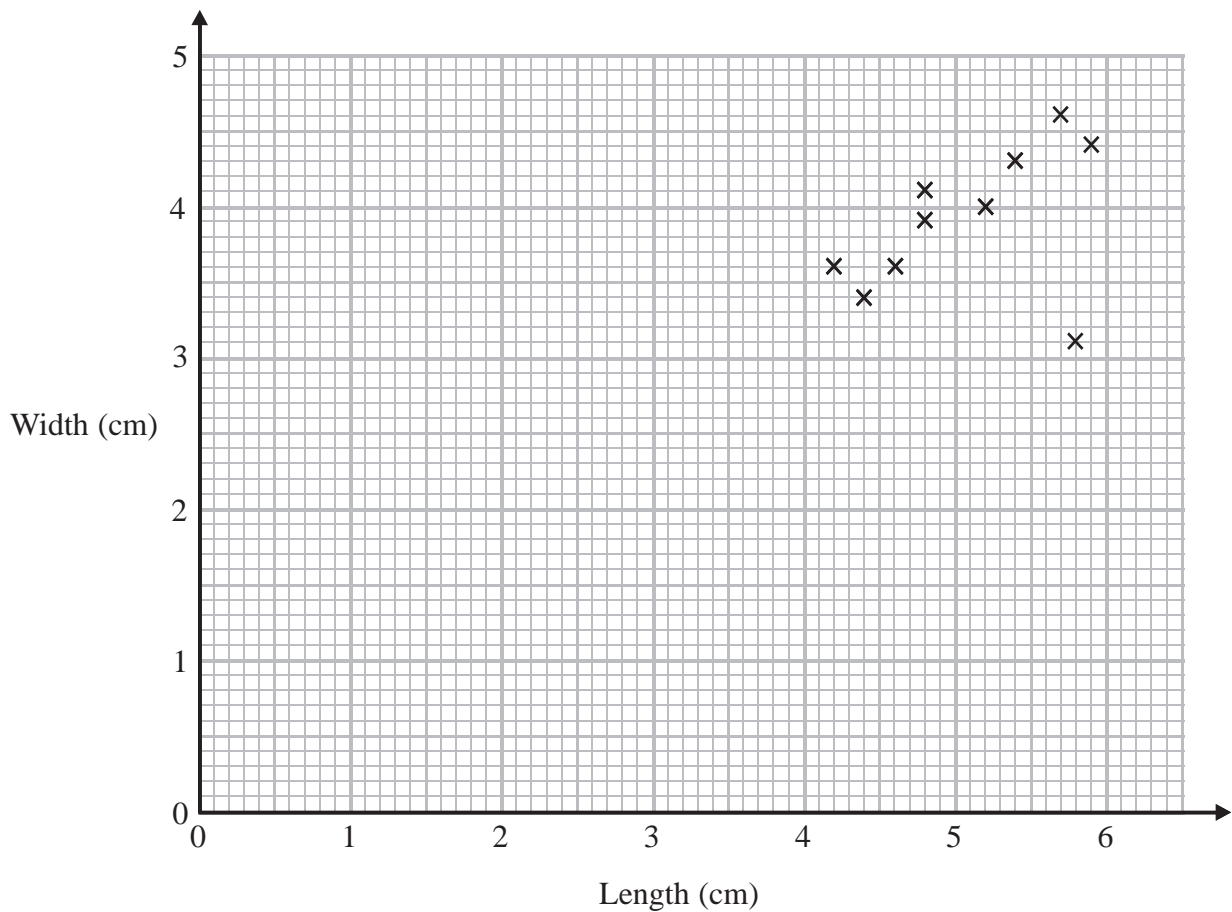
The mean score is 16.5

(b) Describe the mistake Graham made in his method to work out the mean score.

.....
.....
(1)

(Total for Question 79 is 2 marks)

80 Katie measured the length and the width of each of 10 pine cones from the same tree. She used her results to draw this scatter graph.



(a) Describe one improvement Katie can make to her scatter graph.

.....

.....

(1)

The point representing the results for one of the pine cones is an outlier.

(b) Explain how the results for this pine cone differ from the results for the other pine cones.

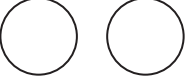


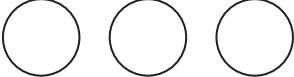
.....

.....

(1)

(Total for Question 80 is 2 marks)

81 The pictogram gives information about the number of buns Sujata sold in her shop on each of four days last week.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:
 represents 4 buns

(a) Write down the number of buns Sujata sold on Monday.

.....
 (1)

(b) Work out the total number of buns sold on Monday, Tuesday, Wednesday and Thursday.

.....
 (2)

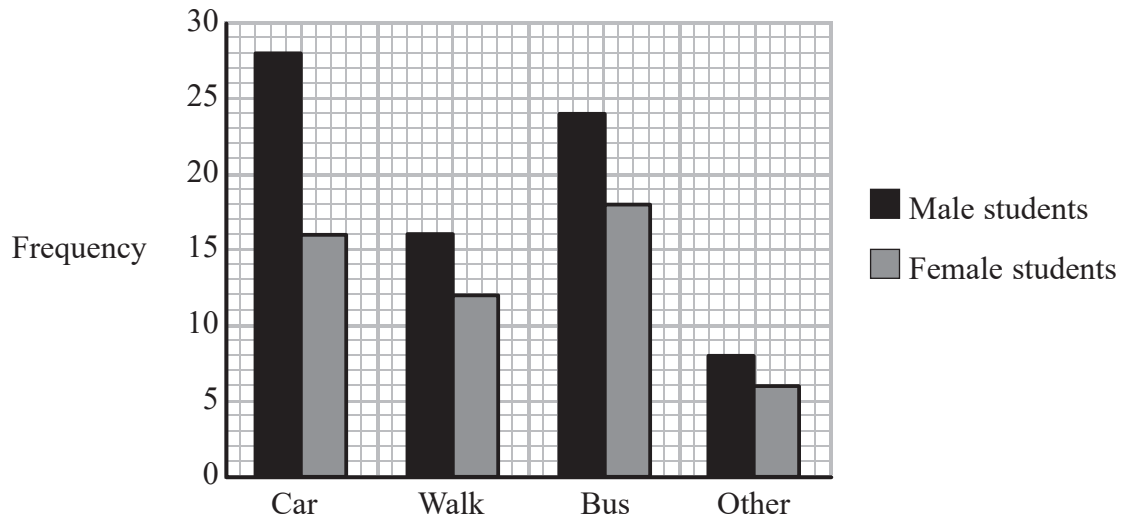
On Friday last week Sujata sold 16 buns.

(c) Show this information on the pictogram.

(1)

(Total for Question 81 is 4 marks)

82 The bar chart gives information about how students got to a college yesterday.



(a) How many male students got to the college by car?

.....
(1)

(b) Work out the total number of students who got to the college by bus.

.....
(1)

More male students than female students got to the college.

(c) How many more?

.....
(2)

(Total for Question 82 is 4 marks)

83 The table shows the temperatures in some cities at midnight one night.

City	Temperature at midnight
Cardiff	+4 °C
Leeds	-2 °C
London	+3 °C
Newcastle	-4 °C
Truro	+4 °C

(a) Which city has the lowest temperature at midnight?

.....
(1)

(b) Work out the difference between the temperatures at midnight in Leeds and in Truro.

..... °C
(1)

Between midnight and noon the next day the temperature in London fell by 7 °C.

(c) Work out the temperature at noon the next day in London.

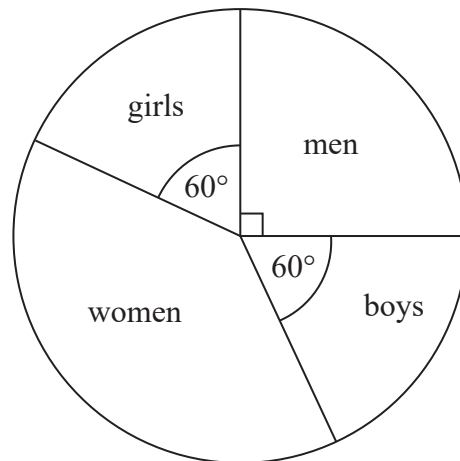
..... °C
(1)

(d) Work out the mean of the five temperatures in the table.

..... °C
(2)

(Total for Question 83 is 5 marks)

Diagram **NOT**
accurately drawn



The pie chart above gives information about the people who went to a shop last week.

- (a) What fraction of the people were girls?
Give your answer in its simplest form.

.....
(2)

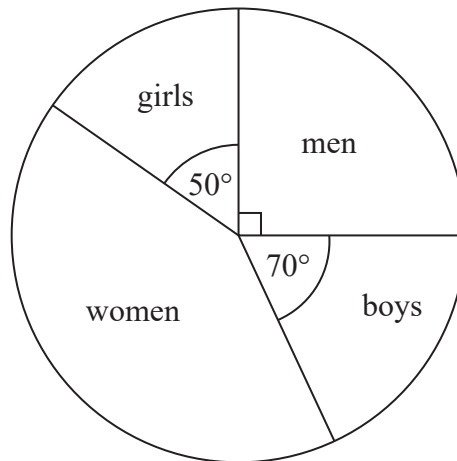
30 boys went to the shop.

- (b) Work out the number of women who went to the shop.

.....
(3)

The pie chart below gives information about the people who went to the same shop this week.

Diagram **NOT** accurately drawn



Laurent says,

“The pie chart shows that more boys went to the shop this week than last week.”

(c) Is Laurent correct?
Explain your answer.

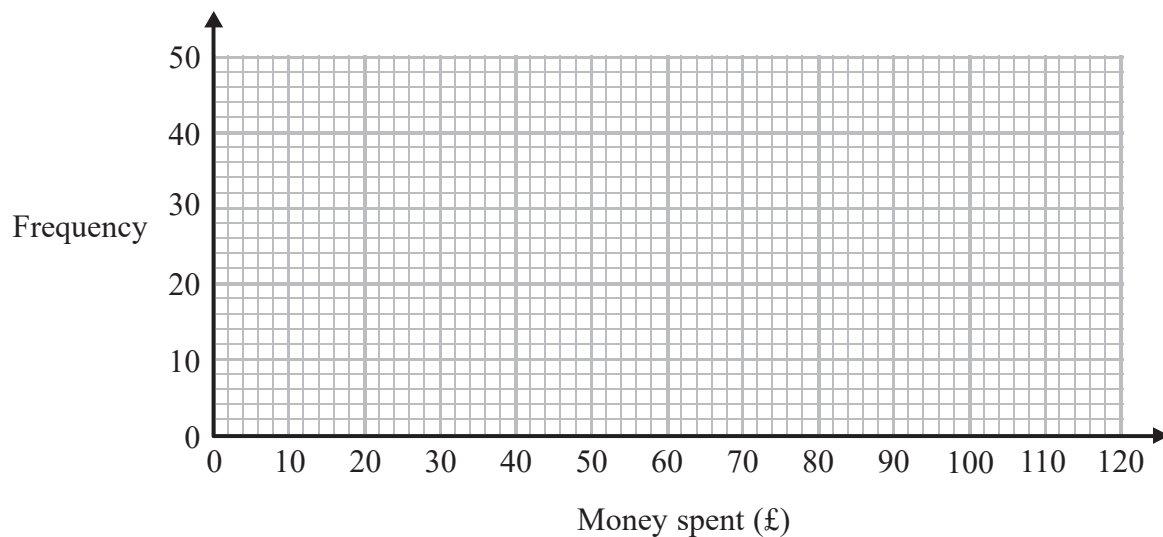
(1)

(Total for Question 84 is 6 marks)

85 The table gives information about the money, £ A , some people spent on an internet site one day.

Money spent (£ A)	Frequency
$0 < A \leq 20$	10
$20 < A \leq 40$	15
$40 < A \leq 60$	25
$60 < A \leq 80$	40
$80 < A \leq 100$	6

(a) On the grid, draw a frequency polygon for this information.



(2)




(b) Write down the modal class interval.

.....
(1)

(Total for Question 85 is 3 marks)

86 Heidi asks all the children in her class to tell her the sport they like best.

The pictogram shows how many children like swimming best, like netball best and like football best.

Swimming	
Netball	
Football	
Cricket	

Key:  represents 2 children

8 children like cricket best.

(a) Use this information to complete the pictogram.

(1)

(b) Work out the total number of children in Heidi's class.

.....
(2)

(Total for Question 86 is 3 marks)

87 The table shows information about the number of grams of protein, of carbohydrate and of fat in 100 grams of regular yoghurt and in 100 grams of low fat yoghurt.

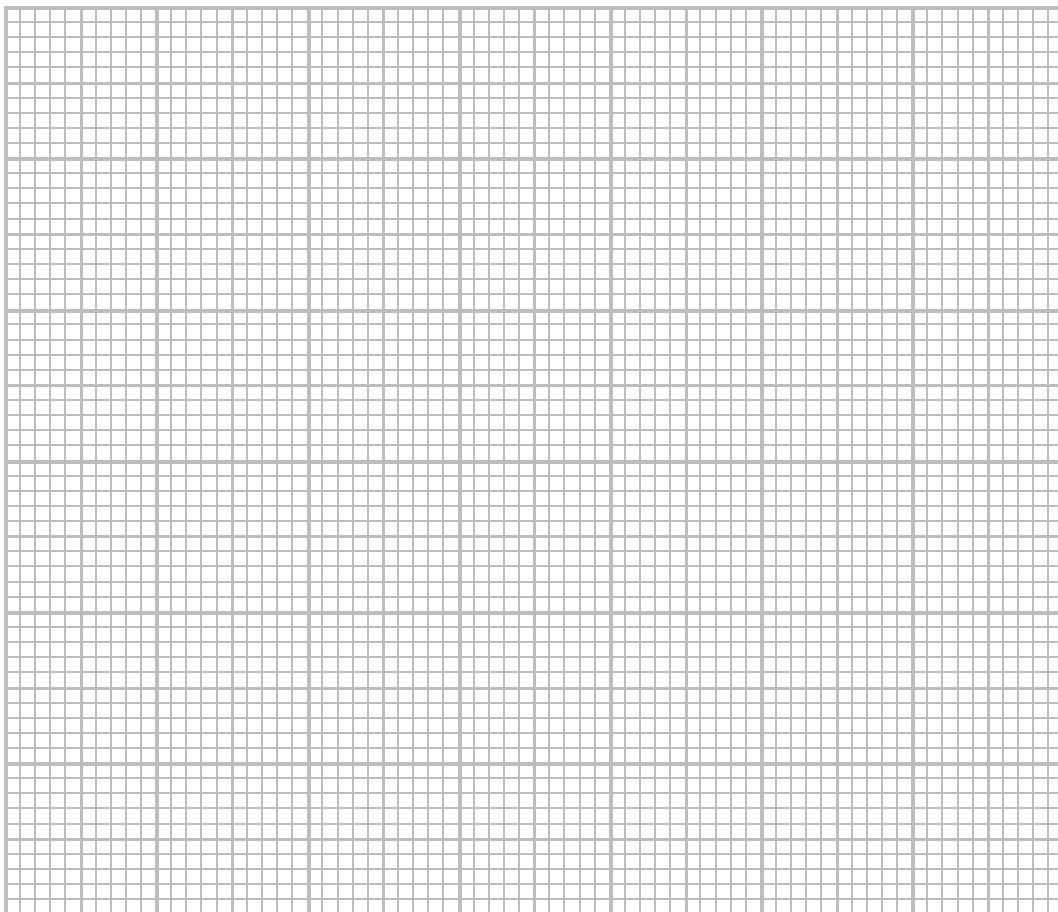
	Protein	Carbohydrate	Fat
Regular	4.7	4.7	3.4
Low Fat	5.9	5.8	0.2

(a) Work out the number of grams of protein in 200 g of regular yoghurt.

..... g
(1)

Jamie is going to compare the information in the table.

*(b) On the grid, draw a suitable diagram or chart he could use.



(4)

(Total for Question 87 is 5 marks)

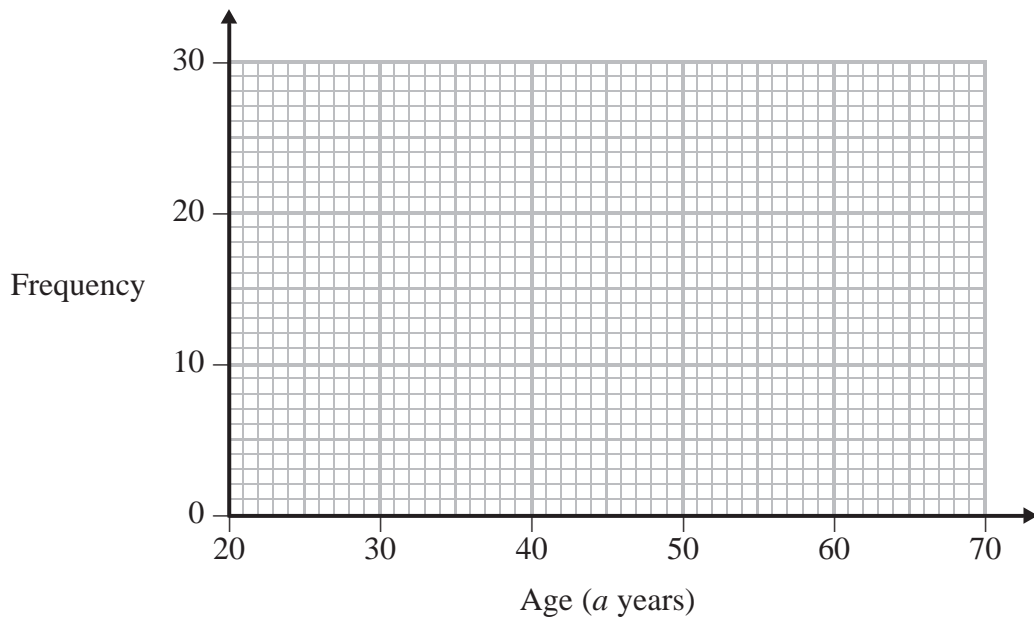
88 The table shows some information about the ages of 60 teachers.

Age (a years)	Frequency
$20 < a \leq 30$	6
$30 < a \leq 40$	16
$40 < a \leq 50$	14
$50 < a \leq 60$	22
$60 < a \leq 70$	2

(a) Write down the modal class interval.

.....
(1)

(b) Draw a frequency polygon for the information in the table.



(2)

(Total for Question 88 is 3 marks)

89 Jack grows five types of vegetable.

The table shows some information about the vegetables.

Vegetable	Sow seeds	Depth of planting	Harvest
peas	May	5 cm	July
carrots	February	2 cm	May
beans	March	5 cm	July
lettuces	May	1 cm	July
onions	February	1 cm	September

(a) Write down the month when Jack sows seeds for carrots.

.....
(1)

(b) Which vegetable does Jack harvest in September?

.....
(1)

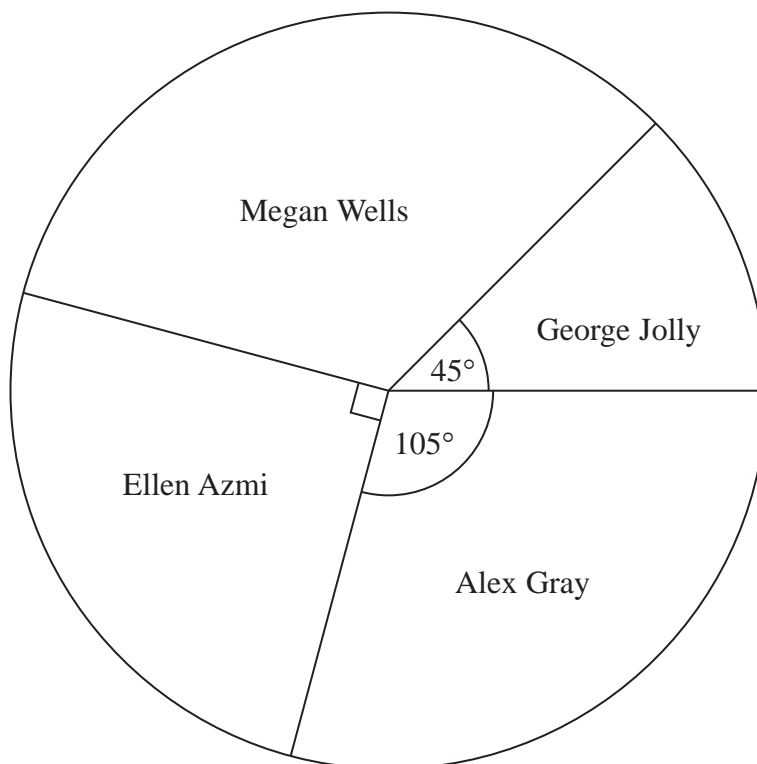
Jack sows seeds for one type of vegetable in May at a depth of 1 cm.

(c) Which vegetable?

.....
(1)

(Total for Question 89 is 3 marks)

- 90 The pie chart shows information about the number of votes each of four candidates got in an election.



- (a) What fraction of the votes did Megan Wells get?

.....
(2)

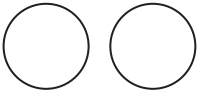
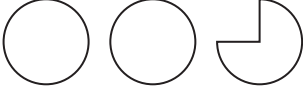
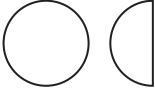
Ellen Azmi got 4500 votes.

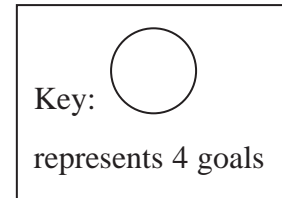
- (b) Work out the total number of votes the four candidates got.

.....
(2)

(Total for Question 90 is 4 marks)

- 91 Here is a pictogram.
It shows the number of goals scored by Ali, by Ben and by Charlie.

Ali	
Ben	
Charlie	
Darren	



- (a) Who scored the least number of goals, Ali or Ben or Charlie?

.....
(1)

- (b) Write down the number of goals scored by Ali.

.....
(1)

- (c) Write down the number of goals scored by Ben.

.....
(1)

Darren scored 10 goals.

- (d) Show this information on the pictogram.

(1)

(Total for Question 91 is 4 marks)

- 92 Here is a pictogram.
It shows the number of TVs sold in a shop on Thursday, on Friday and on Saturday.

Thursday	<input type="checkbox"/> <input type="checkbox"/>
Friday	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Saturday	<input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/> <input type="checkbox"/>
Sunday	

Key: represents 4 TVs

On Sunday the shop sold 6 TVs.

- (a) Use this information to complete the pictogram.

(1)

- (b) Work out the total number of TVs sold on these four days.

.....
(2)

(Total for Question 92 is 3 marks)

93 The table gives some information about four cars.

Car	Price (£)	Length (mm)	Top speed (mph)	Engine size (cc)
Ficus	19 195	2650	120	999
Hind	18 995	2650	116	1582
Avris	20 535	2600	110	1798
Gulf	19 120	2580	121	1390

(a) Which of the four cars has the least length?

.....
(1)

(b) Which car has a price greater than £19 000 **and** a top speed of less than 120 mph?

.....
(1)

The price of the Ficus is £19 195

(c) Write 19 195 correct to the nearest 100

.....
(1)

(Total for Question 93 is 3 marks)

94 This rule is used to work out a football team's goal difference.

$$\text{Goal difference} = \text{goals for} - \text{goals against}$$

The table gives information about five football teams.

Football team	Goals for	Goals against	Goal difference
Arsenal	30	11	19
Chelsea	30	17	.....
Tottenham	15	16	.....
West Ham	.....	19	-6
Fulham	14	.....	-12

Complete the table.

(Total for Question 94 is 4 marks)

95 Jim asked each person in his class how many cars their family have.

The frequency table shows the results.

Number of cars	Frequency
0	2
1	12
2	8
3	6
4	2

(a) Write down the mode.

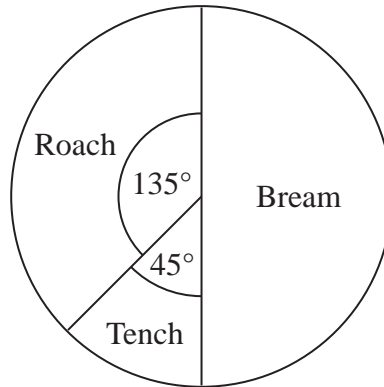
.....
(1)

(b) Work out the total number of cars.

.....
(2)

(Total for Question 95 is 3 marks)

96 The pie chart shows information about the types of fish Simon caught on Saturday.

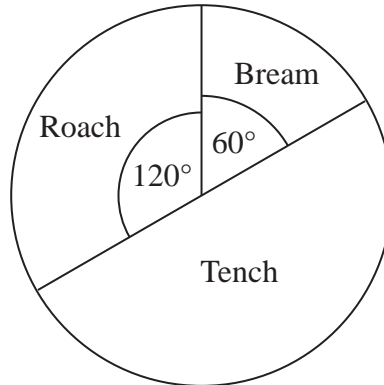


Simon caught 2 tench.

(a) Work out the total number of fish Simon caught.

.....
(2)

This pie chart shows information about the types of fish Asif caught on Saturday.



Debbie says,

“The pie charts show that Simon caught more roach than Asif caught on Saturday.”

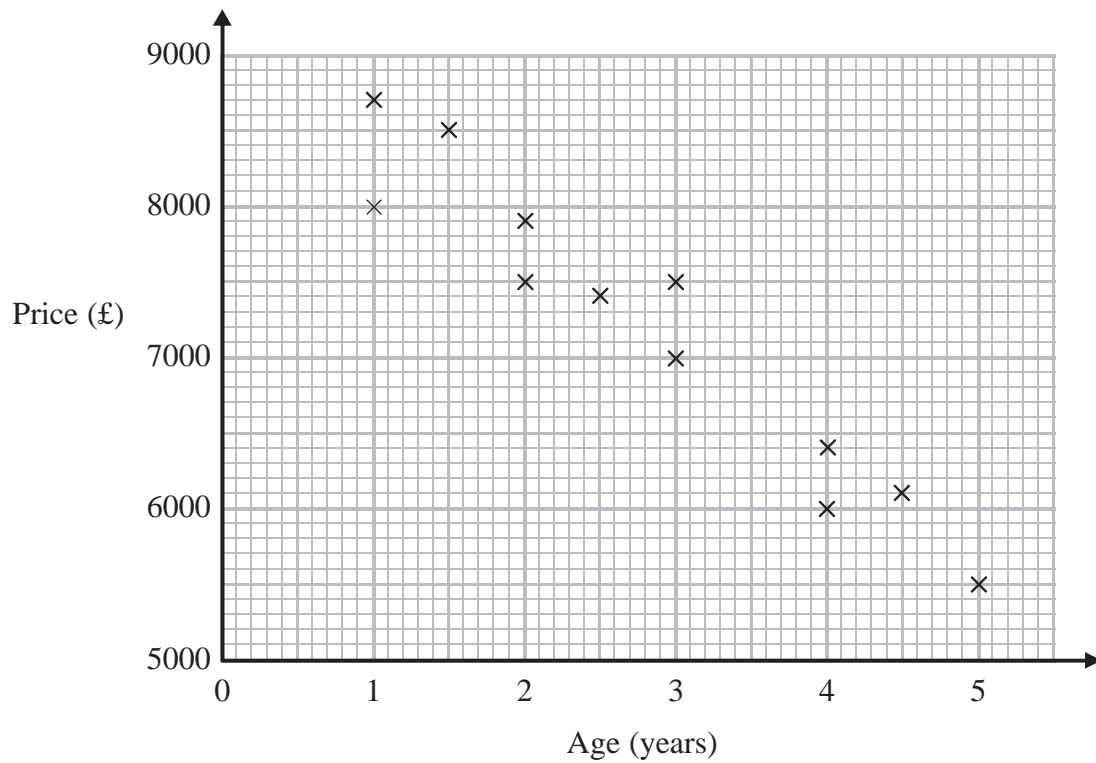
(b) Is Debbie correct?

Explain your answer.

.....
.....
(1)

(Total for Question 96 is 3 marks)

97 The scatter graph shows information about the age and the price of each of 12 cars of the same model.



(a) Describe the relationship between the age of a car and its price.

(1)

A different car of the same model is $3\frac{1}{2}$ years old.

(b) Estimate the price of this car.

£.....

(2)

(Total for Question 97 is 3 marks)

98 Liz asks 20 people to name the flavour of chocolate they like best.

Here are her results.

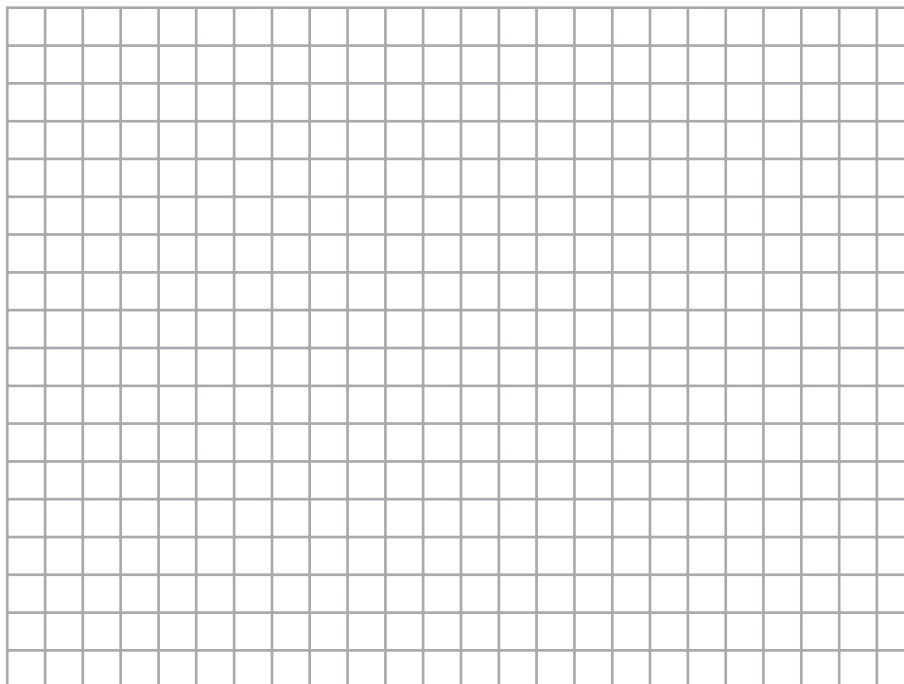
milk plain orange plain milk
coffee white milk milk orange
white coffee plain milk milk
milk plain coffee milk orange

(a) Complete the frequency table.

Flavour of chocolate	Tally	Frequency
plain		
milk		
coffee		
orange		
white		

(2)

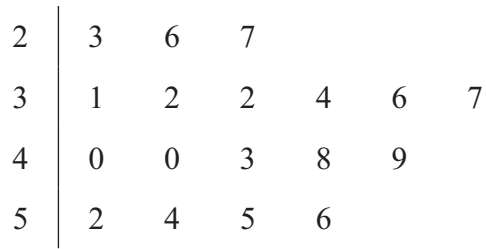
(b) On the grid, draw a suitable chart or diagram to show Liz's results.



(3)

(Total for Question 98 is 5 marks)

99 The stem and leaf diagram gives information about the heights, in cm, of the tomato plants in a garden.



Key : 3 | 1 means 31 cm

(a) How many tomato plants are there in the garden?

.....
(1)

(b) Write down the height of the tallest tomato plant.

..... cm
(1)

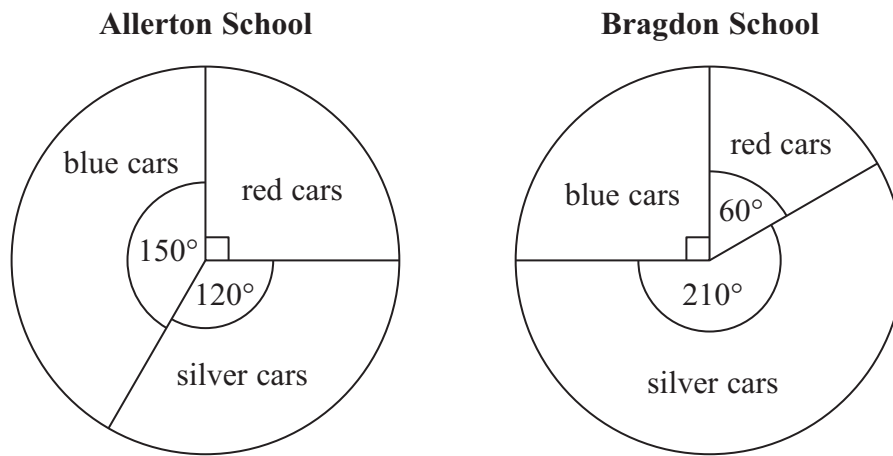
(c) Work out the range of the heights.

..... cm
(2)

(Total for Question 99 is 4 marks)

100 There are only silver cars, blue cars and red cars in the car parks at Allerton School and at Bragdon School.

The pie charts show information about the numbers of these cars.



- (a) What fraction of the cars in the car park at Allerton School are blue?
Give your fraction in its simplest form.

.....
(2)

There are 12 red cars in the car park at Bragdon School.

- (b) How many silver cars are there in this car park?

.....
(2)

(c) In which car park are there more silver cars?

Tick (✓) one box to show your answer.

Allerton School

Bragdon School

Not enough information

Explain your answer.

.....

.....

.....

(1)

(Total for Question 100 is 5 marks)

- 101 The table shows some information about the numbers of medals won by Great Britain in the 2012 Olympic Games and in the 2012 Paralympic Games.

	Gold	Silver	Bronze
Olympic Games	29	17	19
Paralympic Games	34	43	43

Great Britain won more medals in total in the Paralympic Games than in the Olympic Games.

How many more medals in total?

.....
(Total for Question 101 is 3 marks)

- 102 Farah recorded the minimum temperature, in $^{\circ}\text{C}$, on each of seven days in January.

Here are her results.

Day	Mon	Tues	Wed	Thur	Fri	Sat	Sun
Temp ($^{\circ}\text{C}$)	-2	-1	2	0	-3	4	7

- (a) Work out the difference between the temperature on Tuesday and the temperature on Wednesday.

..... $^{\circ}\text{C}$
(1)

- (b) Work out the mean of the temperatures Farah recorded.

..... $^{\circ}\text{C}$
(2)

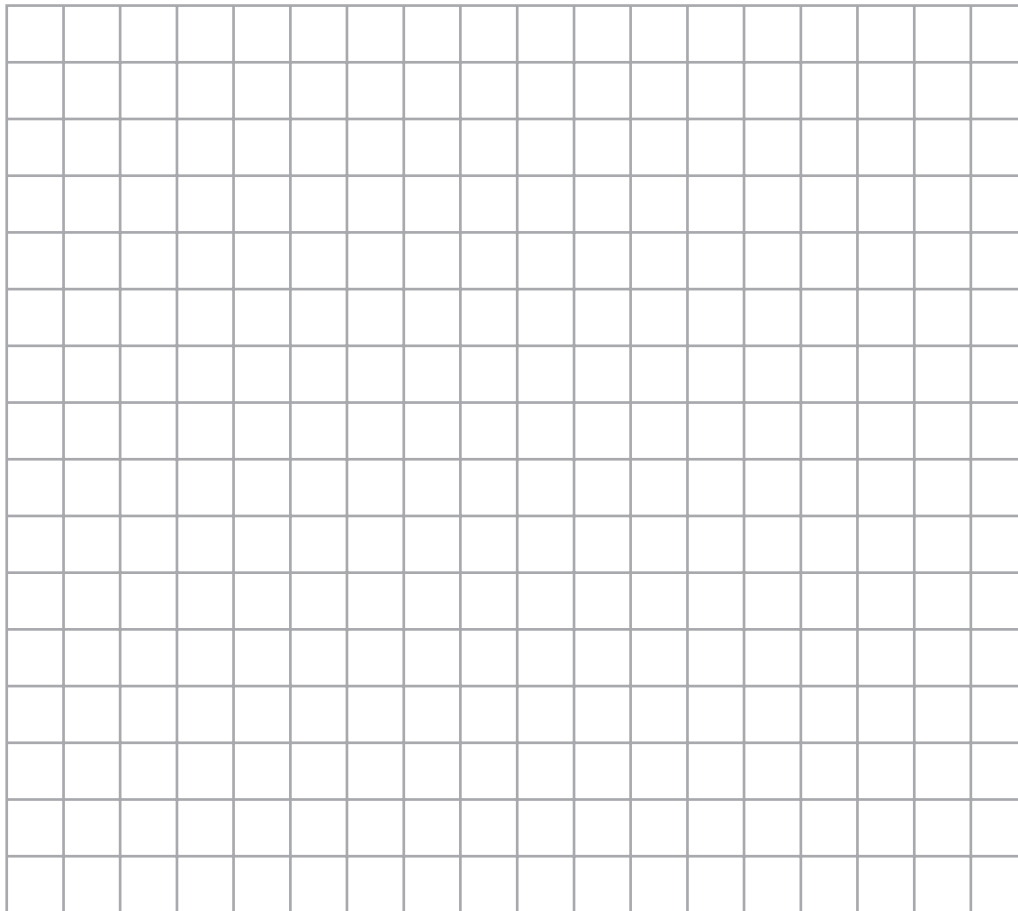
(Total for Question 102 is 3 marks)

***103** The table shows information about the average daily hours of sunshine in Majorca and in Crete for each of five months.

	April	May	June	July	August
Majorca	9	9	11	11	10
Crete	6	8	11	13	12

Simon wants to compare this information.

On the grid, draw a suitable diagram or chart.

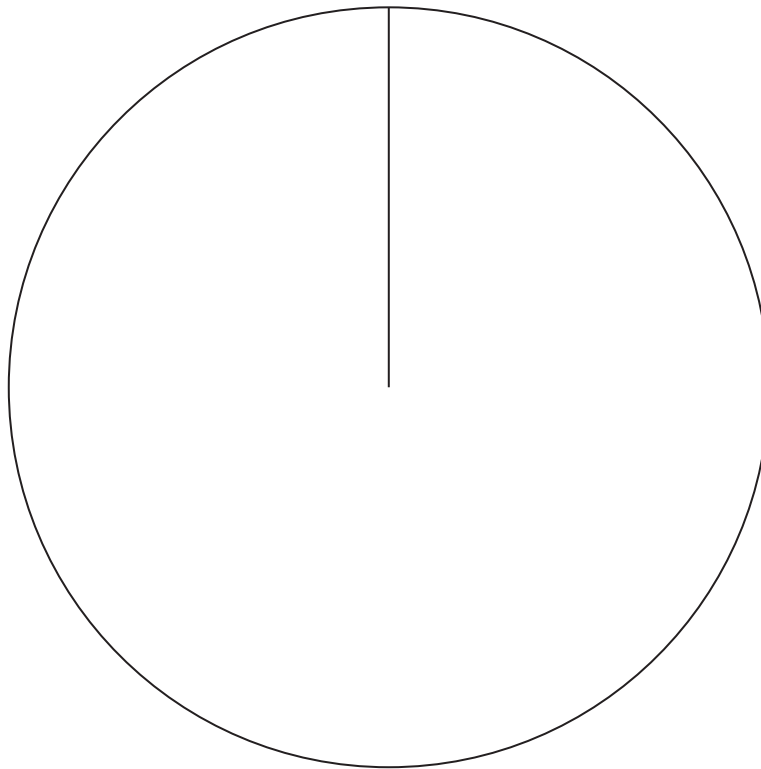


(Total for Question 103 is 4 marks)

104 The table gives information about the results of the matches a football team played.

Result	Frequency	
Won	28	
Drawn	12	
Lost	20	

Draw an accurate pie chart to show this information.


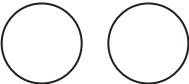
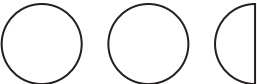
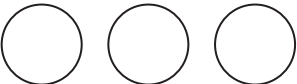



(Total for Question 104 is 4 marks)

105 A car hire company wants to know if people are happy with their hire cars.

The company asks different people if they are happy with their hire cars.

The results for Monday, Tuesday, Wednesday and Thursday are shown in the pictogram.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:  4 happy people

(a) How many people were happy with their hire cars on Tuesday?

.....
(1)

(b) How many people were happy with their hire cars on Wednesday?

.....
(1)

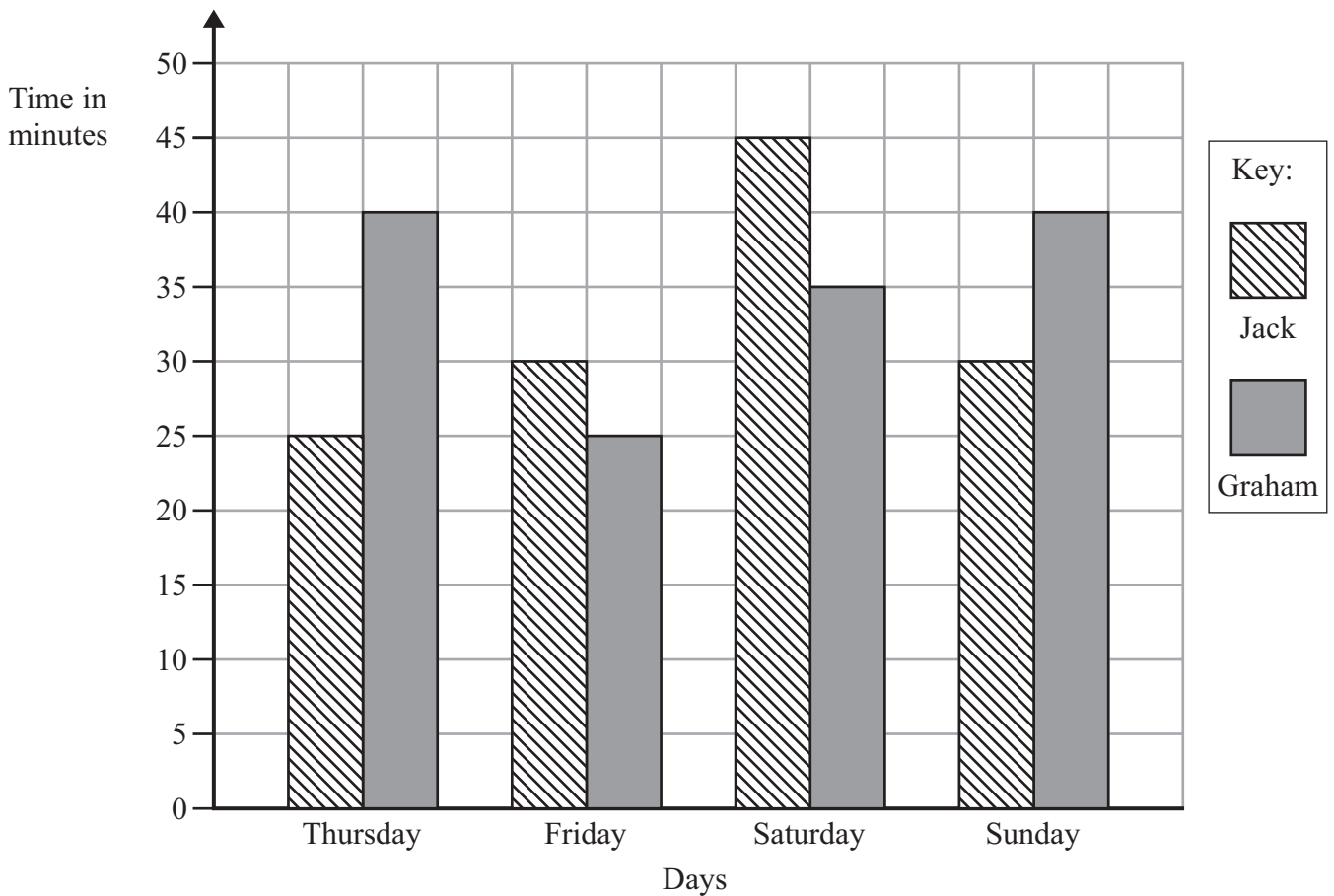
On Friday 7 people are happy with their hire cars.

(c) Complete the pictogram for Friday.

(1)

(Total for Question 105 is 3 marks)

106 Jack and Graham each recorded the time, in minutes, they each spent sending messages on Thursday, on Friday, on Saturday and on Sunday last week.



(a) How many minutes did Graham spend sending messages on Saturday?

..... minutes
(1)

(b) On which day did Jack spend exactly 25 minutes sending messages?

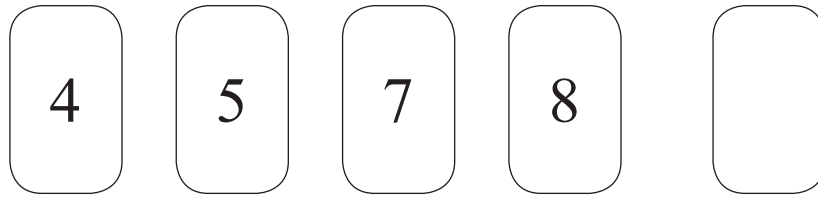
.....
(1)

*(c) Who spent the greater total time sending messages?
You must show your working.

(3)

(Total for Question 106 is 5 marks)

107 Here are five cards.



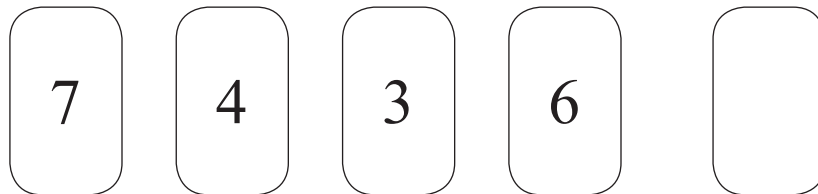
There is a whole number from 0 to 9 on each card.
The number on the last card is hidden.

The range of the five numbers is 6

(a) Write down the whole number on the last card.

.....
(1)

Here is a different set of five cards.



There is a different whole number from 0 to 9 on each card.
The number on the last card is hidden.

The median of the numbers on the five cards is 4

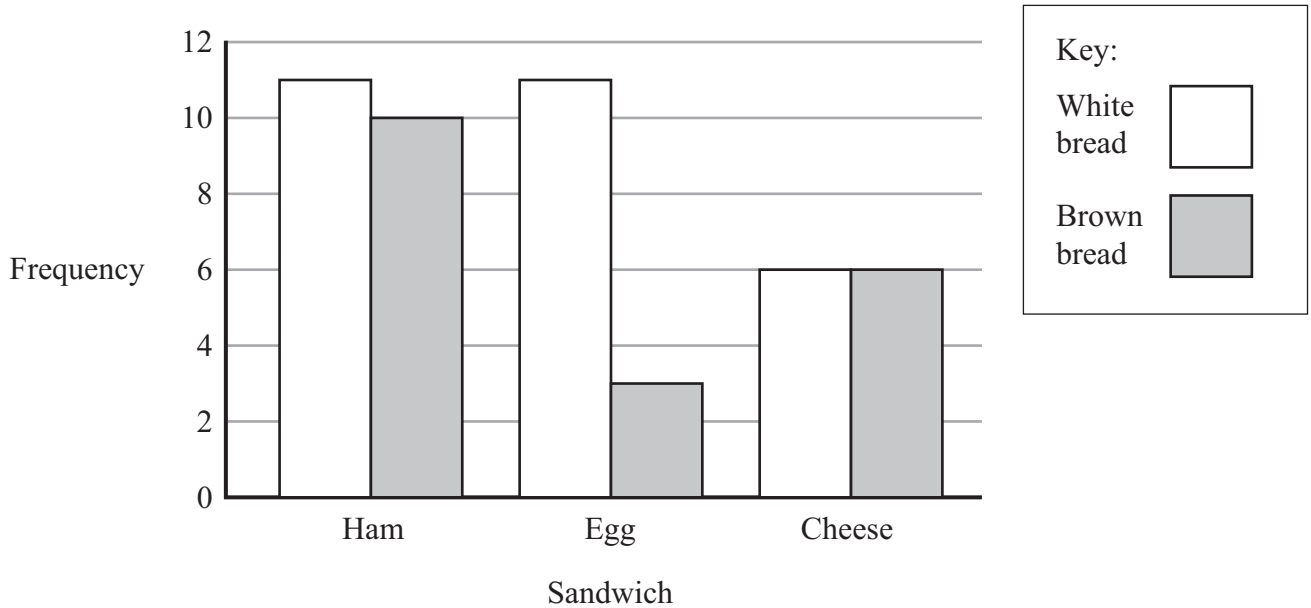
(b) Which whole numbers could be on the last card?

.....
(2)

(Total for Question 107 is 3 marks)

108 Ann works in a sandwich shop.

The dual bar chart shows information about the sandwiches sold.



(a) Write down the total number of cheese sandwiches sold.

.....
(1)

More white bread sandwiches were sold than brown bread sandwiches.

(b) Work out how many more white bread sandwiches.

.....
(2)

(Total for Question 108 is 3 marks)

109 Ed has 4 cards.
There is a number on each card.

12

6

15

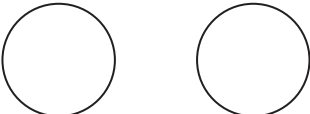

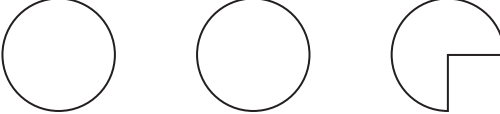
?

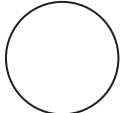
The mean of the 4 numbers on Ed's cards is 10

Work out the number on the 4th card.

.....
(Total for Question 109 is 3 marks)

110 The pictogram shows the numbers of zips sold in a shop on Monday, on Tuesday and on Wednesday.

Monday	
Tuesday	
Wednesday	
Thursday	

Key:  represents 4 zips

(a) Write down the number of zips sold on Monday.

.....
(1)

(b) Write down the number of zips sold on Wednesday.

.....
(1)

9 zips were sold on Thursday.

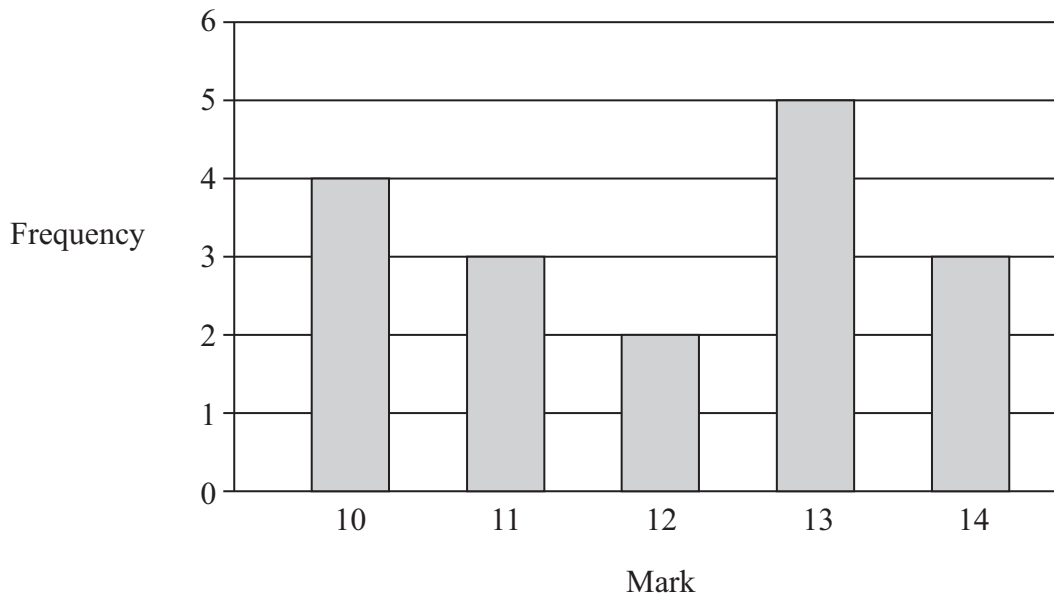
(c) Complete the pictogram.

(1)

(Total for Question 110 is 3 marks)

111 Mrs Smith gave her students a history test.

The bar chart shows information about the students' marks.



(a) Write down the number of students who got 10 marks.

.....
(1)

(b) Write down the mode.

.....
(1)

(c) Which two marks have the same frequency?

..... and
(1)

(d) Work out the range.

.....
(2)

(e) How many students did the test?

.....
(2)




(Total for Question 111 is 7 marks)

112 Zuber wants to find out the colours of cars in a car park.

Design a suitable table for a data collection sheet he could use.

(Total for Question 112 is 3 marks)

- 113 The pictogram shows the number of tins of dog food sold in a shop on Monday, on Tuesday and on Wednesday last week.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key:  represents 10 tins

On Thursday, 60 tins of dog food were sold in the shop.
On Friday, 35 tins of dog food were sold in the shop.

- (a) Use this information to complete the pictogram.

(2)

More tins of dog food were sold on Tuesday than on Monday.

- (b) How many more tins?

.....
(2)

(Total for Question 113 is 4 marks)

114 The table gives information about the temperatures in Reykjavik for 5 days one week.

Day	Maximum temperature	Minimum temperature
Monday	5 °C	4 °C
Tuesday	8 °C	6 °C
Wednesday	6 °C	-2 °C
Thursday	-1 °C	-4 °C
Friday	-3 °C	-6 °C

(a) Which day had the highest maximum temperature?

.....
(1)

(b) What is the lowest minimum temperature?

..... °C
(1)

(c) Which day had the greatest difference between the maximum temperature and the minimum temperature?

.....
(2)

(Total for Question 114 is 4 marks)

115 Yan recorded the ages, in years, of a sample of people at a fairground.

He drew this stem and leaf diagram for his results.

1	5	5	7	7	7	7	9
2	0	3	7	8	8		
3	4	6	7	7			
4	2	5	9				
5	0	5					

Key:
1 | 5 represents 15 years of age

(a) Write down the number of people in the sample.

.....
(1)

(b) Write down the mode.

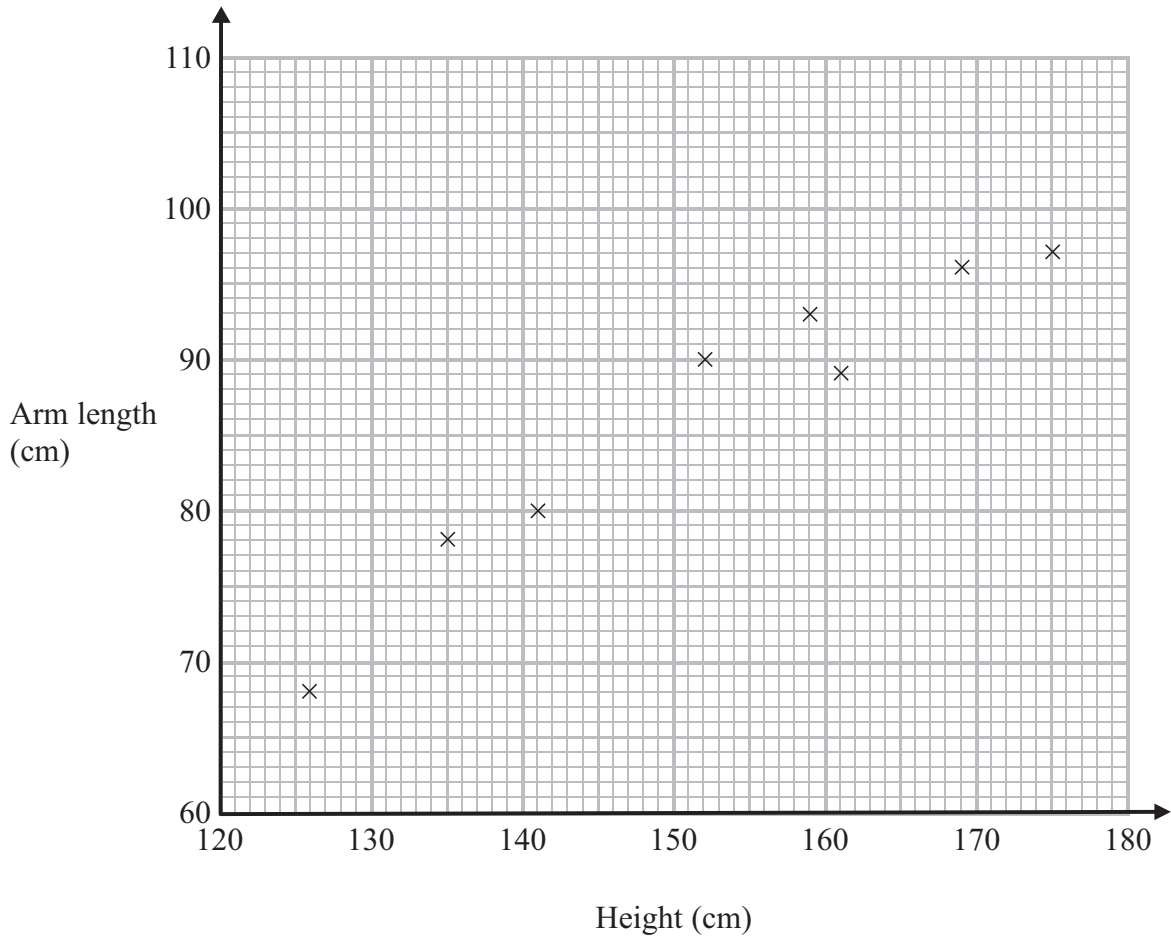
.....years
(1)

(c) Work out the range.

.....years
(2)

(Total for Question 115 is 4 marks)

116 The scatter graph shows information about the height and the arm length of each of 8 students in Year 11



(a) What type of correlation does this scatter graph show?

.....
(1)

A different student in Year 11 has a height of 148 cm.

(b) Estimate the arm length of this student.

.....cm
(2)

(Total for Question 116 is 3 marks)

117 Helen carried out a survey to find out the fruit her friends like best.

Here are her results.

apples	oranges	peaches	bananas	pineapples
bananas	bananas	oranges	apples	peaches
bananas	oranges	pineapples	oranges	bananas
peaches	apples	bananas	apples	bananas

(a) Complete the table for Helen’s results.

Fruit	Tally	Frequency
apples		
bananas		
oranges		
peaches		
pineapples		

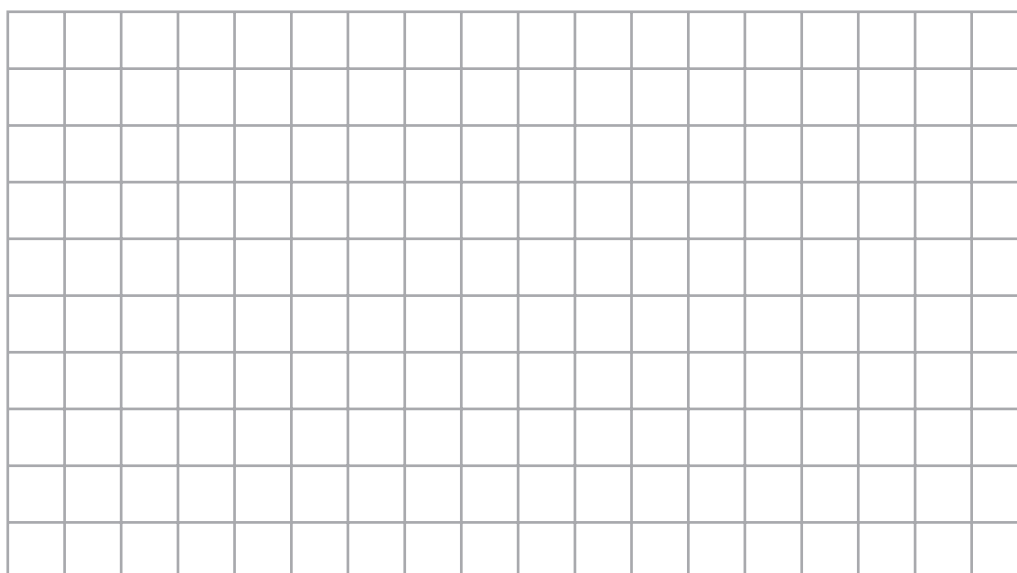
(2)

(b) Write down the number of Helen’s friends who like bananas best.

.....

(1)

(c) On the grid, draw a suitable chart or diagram to show Helen’s results.



(3)

(Total for Question 117 is 6 marks)

- 118** Samina recorded the maximum temperature and the minimum temperature on each of six days in January.

The table shows her results.

	Mon	Tues	Wed	Thurs	Fri	Sat
Maximum temperature	1 °C	3 °C	2 °C	0 °C	3 °C	4 °C
Minimum temperature	- 4 °C	-2 °C	- 4 °C	-5 °C	-3 °C	-2 °C

- (a) Write down the lowest temperature.

..... °C
(1)

- (b) Work out the difference between the maximum temperature on Wednesday and the minimum temperature on Wednesday.

..... °C
(1)

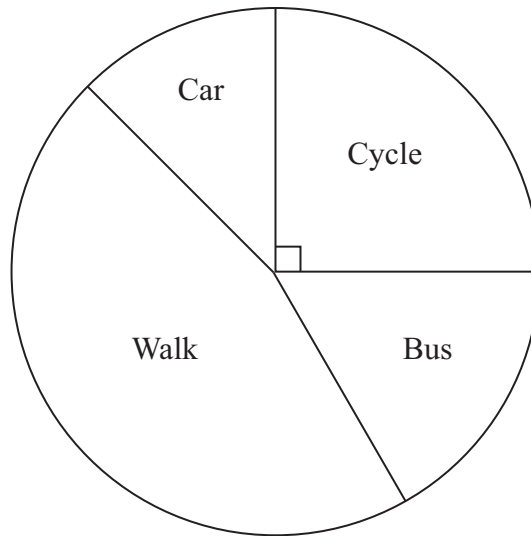
The minimum temperature on Sunday was 5 °C higher than the minimum temperature on Saturday.

- (c) Work out the minimum temperature on Sunday.

..... °C
(1)

(Total for Question 118 is 3 marks)

- 119 Harry asked each student in his class how they travelled to school that day. He used the results to draw this pie chart.



- (a) How did most of the students travel to school?

.....
(1)

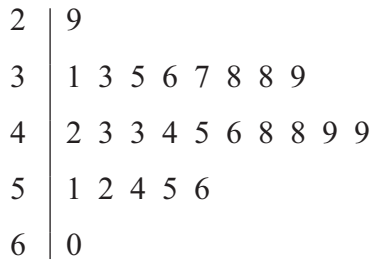
Harry asked a total of 24 students.

- (b) Work out the number of students who cycled to school.

.....
(2)

(Total for Question 119 is 3 marks)

120 The stem and leaf diagram shows some information about the speeds of 25 cars.



Key:
2 | 9 means 29 miles per hour

(a) How many of the 25 cars had a speed of more than 50 miles per hour?

.....
(1)

(b) Find the median speed.

..... miles per hour
(1)

(c) Work out the range of the speeds.

..... miles per hour
(2)

(Total for Question 120 is 4 marks)

121 " Laura and Jaz were worried about the amount of traffic in their town.

The town council aims to reduce the percentage of lorries to 25% of the total number of vehicles.

Laura and Jaz carried out a survey of the types of vehicles passing Laura's house during 10 minutes one Saturday morning.

Here is a list of the vehicles they saw.

Car	Van	Lorry	Motorbike	Bus	Car
Van	Car	Car	Van	Lorry	Motorbike
Motorbike	Motorbike	Van	Lorry	Motorbike	Car
Car	Bus	Lorry	Car	Lorry	Motorbike

Laura and Jaz were going to give a talk about the results of their survey.

*(a) Design a suitable chart or table Laura could use and a different chart or table that Jaz could use to make a summary of the list of vehicles they saw.

Use the space below or the grid provided.

(6)

The council's aim was to reduce the percentage of lorries in the town to be less than 25%.

(b) Did the council succeed? You must explain your answer. (2)

.....

.....

Laura and Jaz's survey was not a good one.

(c) Explain how Laura and Jaz could design a better survey to investigate the council's plan. (2)

.....

.....

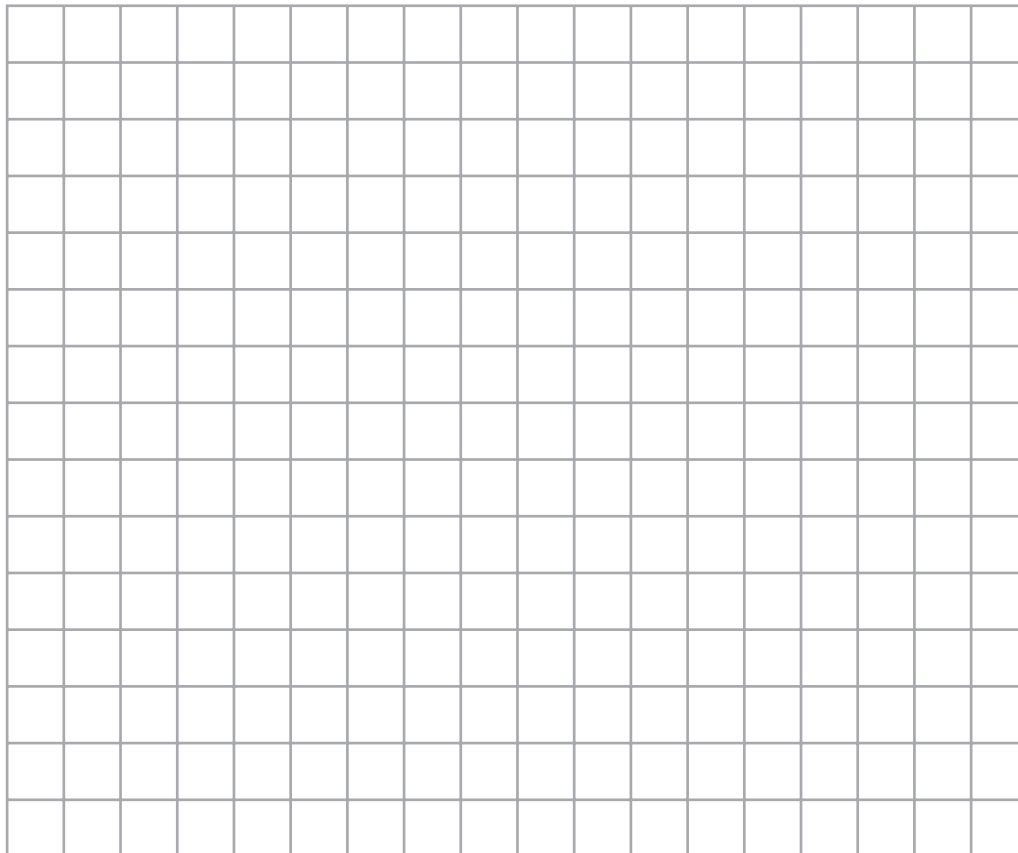
(Total for Question 121 is 10 marks)

***122** The table shows information about the number of students absent from a school last week.

	Mon	Tues	Wed	Thur	Fri
Year 7	16	14	17	21	26
Year 8	16	18	11	13	20

Simon wants to compare this information.

On the grid, draw a suitable diagram or chart Simon can use.



(Total for Question 122 is 4 marks)

123 Here are the ages, in years, of 10 children.

4 9 6 7 3 5 2 6 4 6

(a) Find the mode.

..... years
(1)

(b) Work out the median.

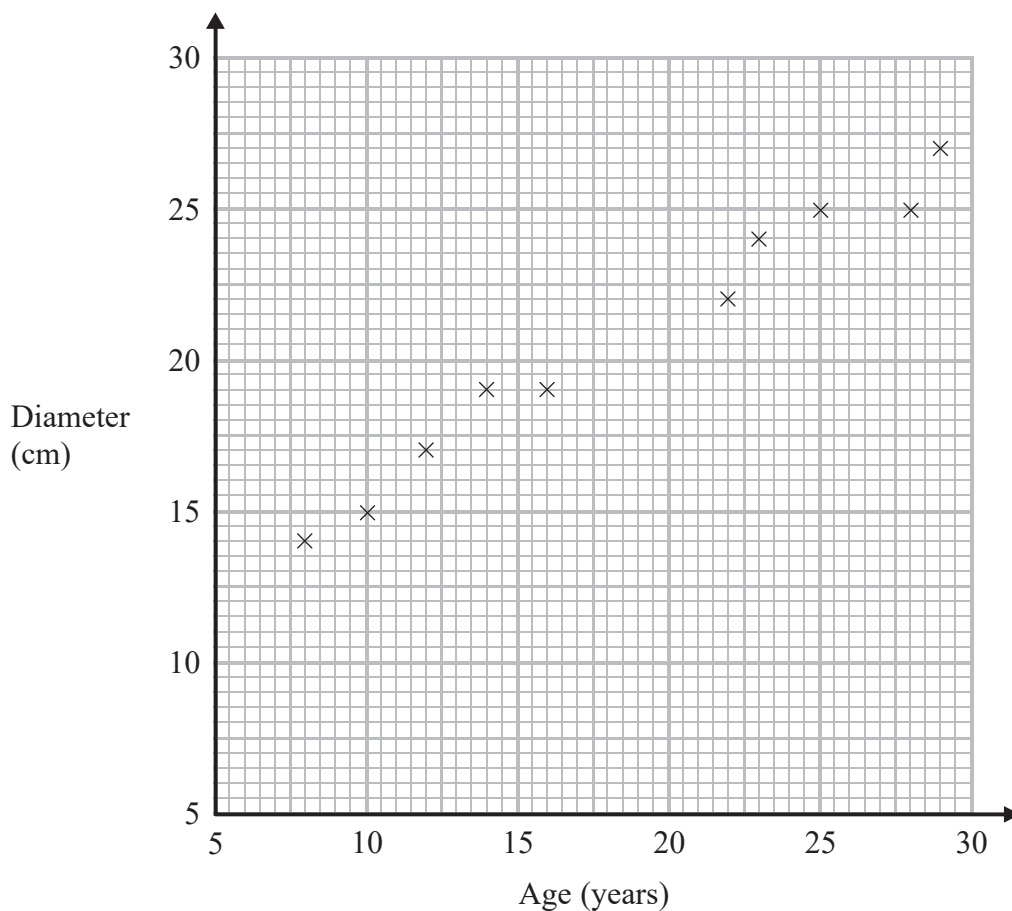
..... years
(2)

(c) Work out the range.

..... years
(2)

(Total for Question 123 is 5 marks)

- 124 The scatter graph shows information about ten trees of the same type. It shows the age and the diameter of the trunk of each tree.



- (a) What type of correlation does this scatter graph show?

.....
(1)

Another tree of the same type has a trunk with diameter 21 cm.

- (b) Estimate the age of this tree.

..... years
(2)

(Total for Question 124 is 3 marks)

125 The table shows some information about five plants.

Name of plant	Height	Colour of flower	Planting time
foxglove	120 cm	white	October
lupin	100 cm	red	June
marigold	15 cm	yellow	February
poppy	25 cm	red	March
sunflower	180 cm	yellow	March

(a) Write down the colour of the foxglove's flower.

.....
(1)

(b) Write down the name of the tallest plant.

.....
(1)

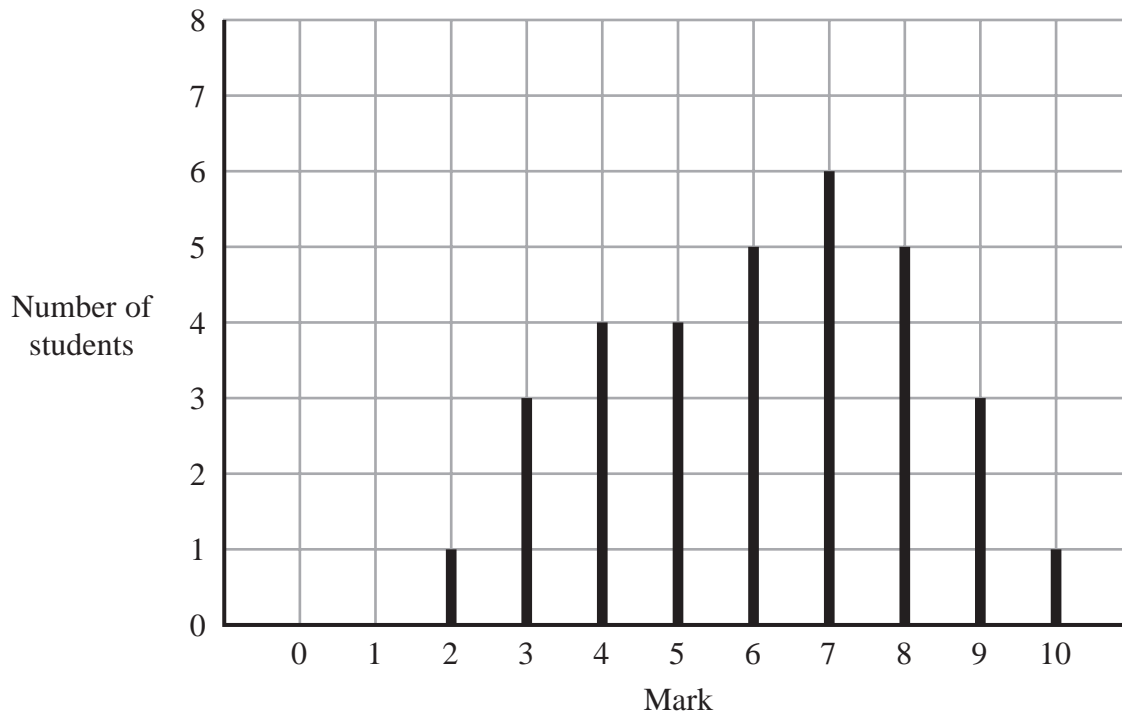
A plant with a red flower has a planting time in March.

(c) Write down the name of this plant.

.....
(1)

(Total for Question 125 is 3 marks)

126 The graph shows information about the test marks of Mr Gilbert's science class.



(a) Work out the number of students who did the test.

.....
(2)

(b) Write down the mode.

.....
(1)

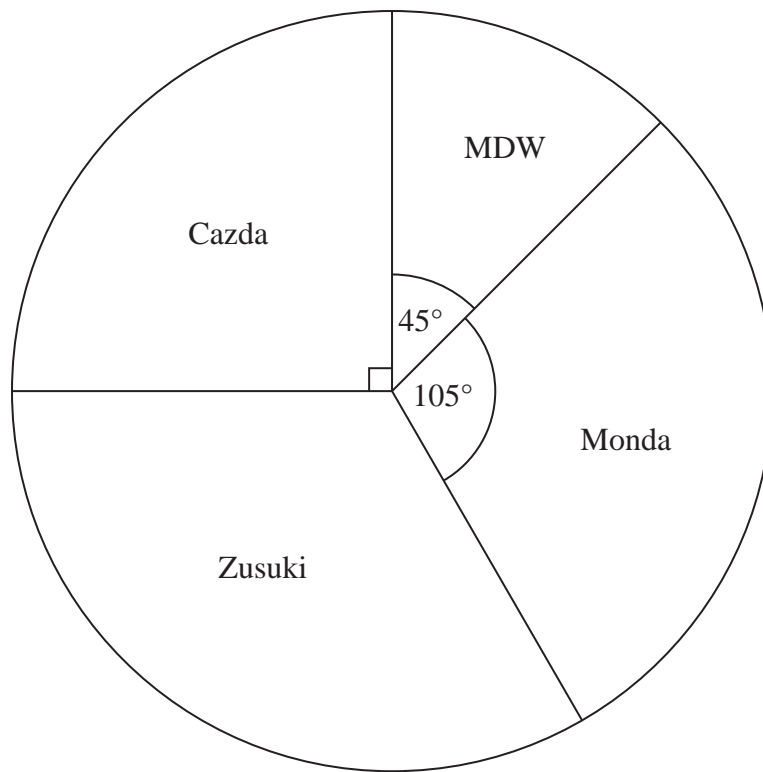
(c) Work out the range of the test marks.

.....
(2)

(Total for Question 126 is 5 marks)

127 Some drivers are asked which make of car they like best.

The pie chart and table show some information about their answers.



Complete the table.

Make of car	Number of drivers	Angle of sector
MDW	18	45°
Cazda	.....	90°
Zusuki	48	.....
Monda	.....	105°

(Total for Question 127 is 4 marks)

128 The table shows information about the numbers of Year 10 students absent from Ellen's school last week.

	Monday	Tuesday	Wednesday	Thursday	Friday
Number of students	12	6	7	10	13

(a) Work out the mean number of Year 10 students absent each day.

.....
(2)

Ellen's school has a total of 240 Year 10 students.

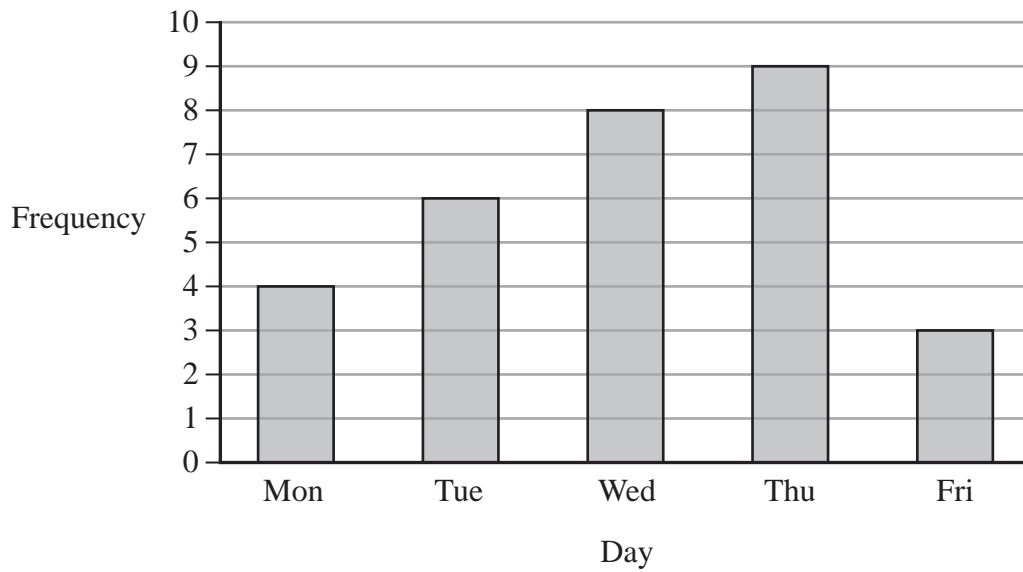
(b) What percentage of Year 10 students were absent on Monday?

.....%
(2)

(Total for Question 128 is 4 marks)

129 Lucy works in a school shop.
She recorded the number of apples sold each day last week.

The bar chart shows this information.



(a) Write down the number of apples sold on Wednesday.

.....
(1)

The total number of apples sold last week is twice the total number of apples sold on two of the days.

(b) Which two days?

..... and,
(2)

(Total for Question 129 is 3 marks)

130 Steve went on holiday.
He recorded the number of photos he took each day.

Here are his results.

20 14 21 19 27 31 19 19 24 21

(a) Find the mode.

.....
(1)

(b) Work out the mean.

.....
(2)

Steve saves his photos on a memory card.

The memory card has 1000 megabytes of memory space.
Each photo uses 2.4 megabytes of memory space.

Steve has saved 320 photos on the memory card.

(c) Work out how many more photos Steve can save on the memory card.

.....
(3)

(Total for Question 130 is 6 marks)

131 148 students each choose to study Geography or to study History.

72 of the students choose History.

34 boys choose Geography.

28 girls choose History.

Use this information to complete the two-way table.

	Geography	History	Total
Boys			
Girls			
Total			

(Total for Question 131 is 3 marks)

132 Chloe recorded the test marks of 20 students.

The stem and leaf diagram shows this information.

1	|	5 7 8 9
2	|	0 0 3 7 8
3	|	1 4 5 6 8 9
4	|	1 2 2 6 7

Key:

1 | 5 means 15 marks

(a) Find the median mark.

.....
(2)

(b) Work out the range of the marks.

.....
(2)

The pass mark for the test is 25

(c) How many of the 20 students did **not** pass the test?

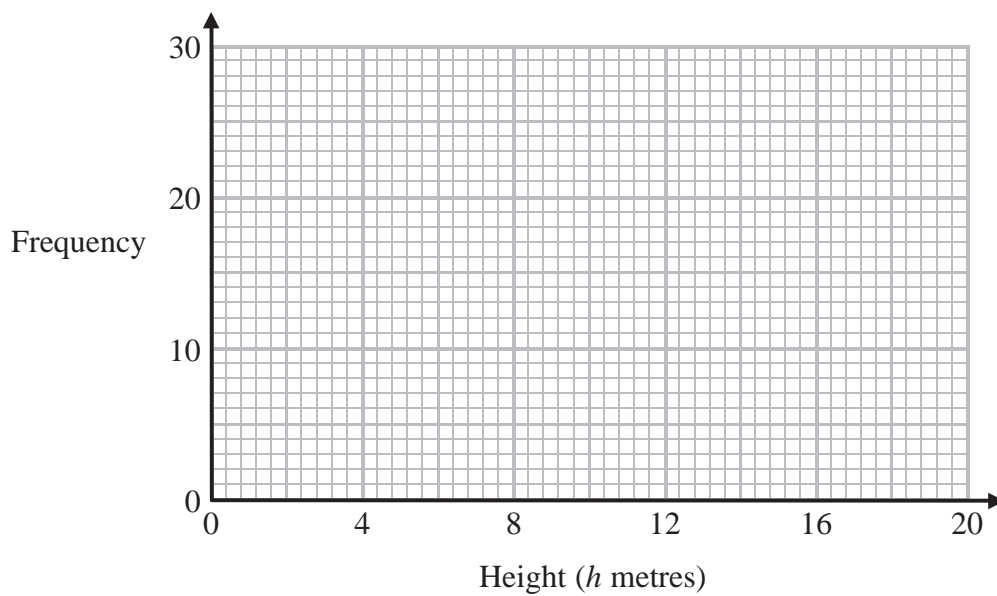
.....
(1)

(Total for Question 132 is 5 marks)

133 The table shows information about the heights of 50 trees.

Height (h metres)	Frequency
$0 < h \leq 4$	8
$4 < h \leq 8$	21
$8 < h \leq 12$	12
$12 < h \leq 16$	7
$16 < h \leq 20$	2

Draw a frequency polygon for the information in the table.



(Total for Question 133 is 2 marks)

- *134 The table shows information about the numbers of cars sold in Tyler’s garage and in Fletcher’s garage for each of four months.

	Jan	Feb	Mar	Apr
Tyler	20	16	36	20
Fletcher	22	16	32	24

Viv wants to compare this information.

On the grid, draw a suitable diagram or chart.

A large empty grid consisting of 20 columns and 20 rows, intended for drawing a suitable diagram or chart to compare the data from the table above.

(Total for Question 134 is 4 marks)

135 The table gives information about six energy companies.

Energy company	Gas price increase (%)	Electricity price increase (%)
E-top	9.4	7.7
TMF Energy	10.8	10.8
U Power	8.5	9.0
Plus Power	11.1	9.3
Local Gas	8.4	10.4
KLY	8.2	8.3

(a) Which energy company has the greatest percentage gas price increase?

.....
(1)

(b) Which energy company has the same percentage price increase for both gas and electricity?

.....
(1)

(c) Work out the range of the percentage gas price increases.

..... %
(2)

(Total for Question 135 is 4 marks)

136 Here is a list of 11 numbers.

4 3 -6 2 4 5 4 -5 6 2 3

(a) Write down the mode.

.....
(1)

(b) Find the median.

.....
(2)

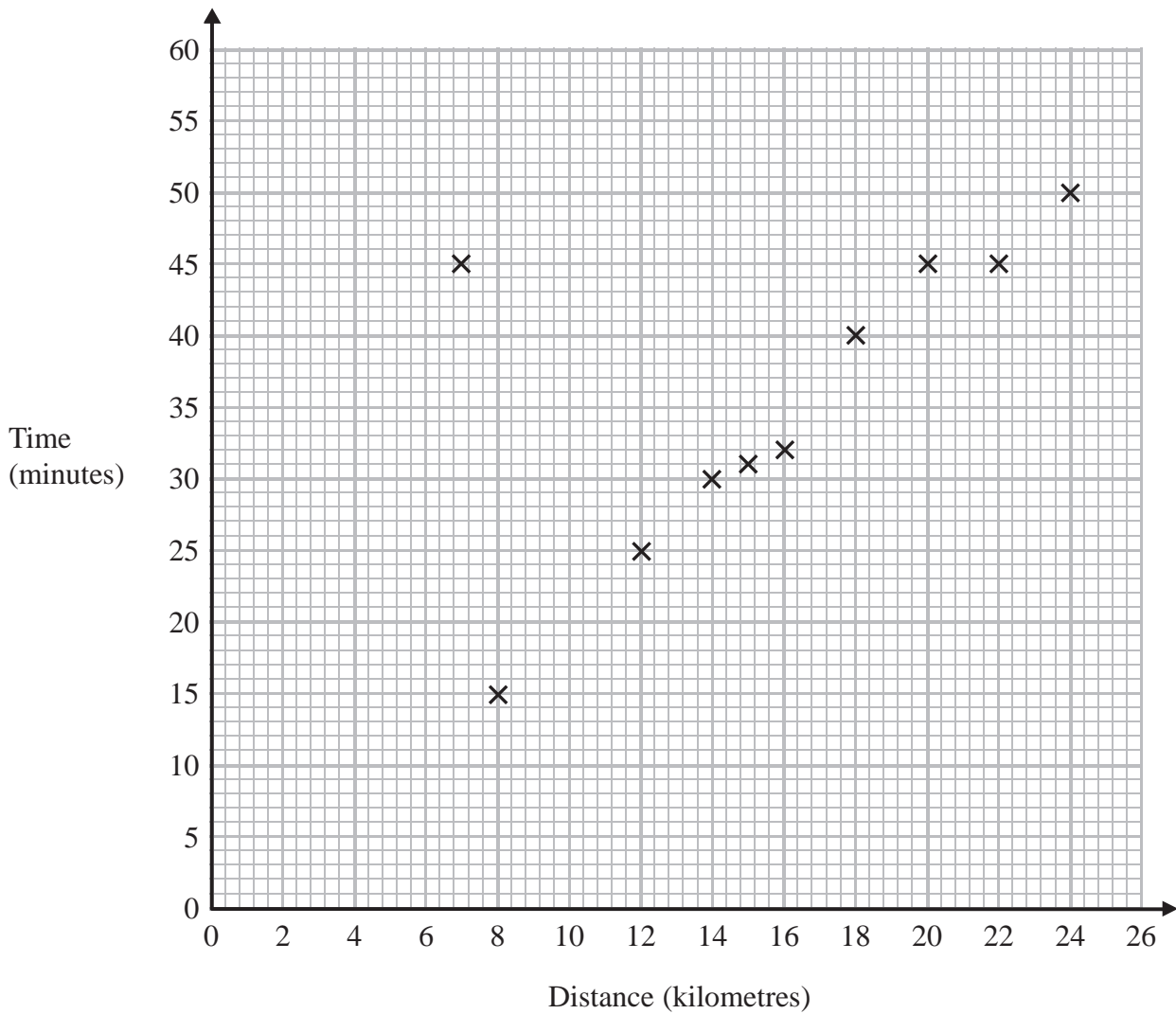
(c) Work out the mean.

.....
(2)

(Total for Question 136 is 5 marks)

137 A delivery driver records for each delivery the distance he drives and the time taken.

The scatter graph shows this information.



For another delivery he drives 22 kilometres and takes 50 minutes.

(a) Show this information on the scatter graph.

(1)

(b) What type of correlation does the scatter graph show?

.....
(1)

The driver has to drive a distance of 10km for his next delivery.

(c) Estimate the time taken for this delivery.

.....minutes

(2)

During one of the deliveries, the driver was delayed by road works.

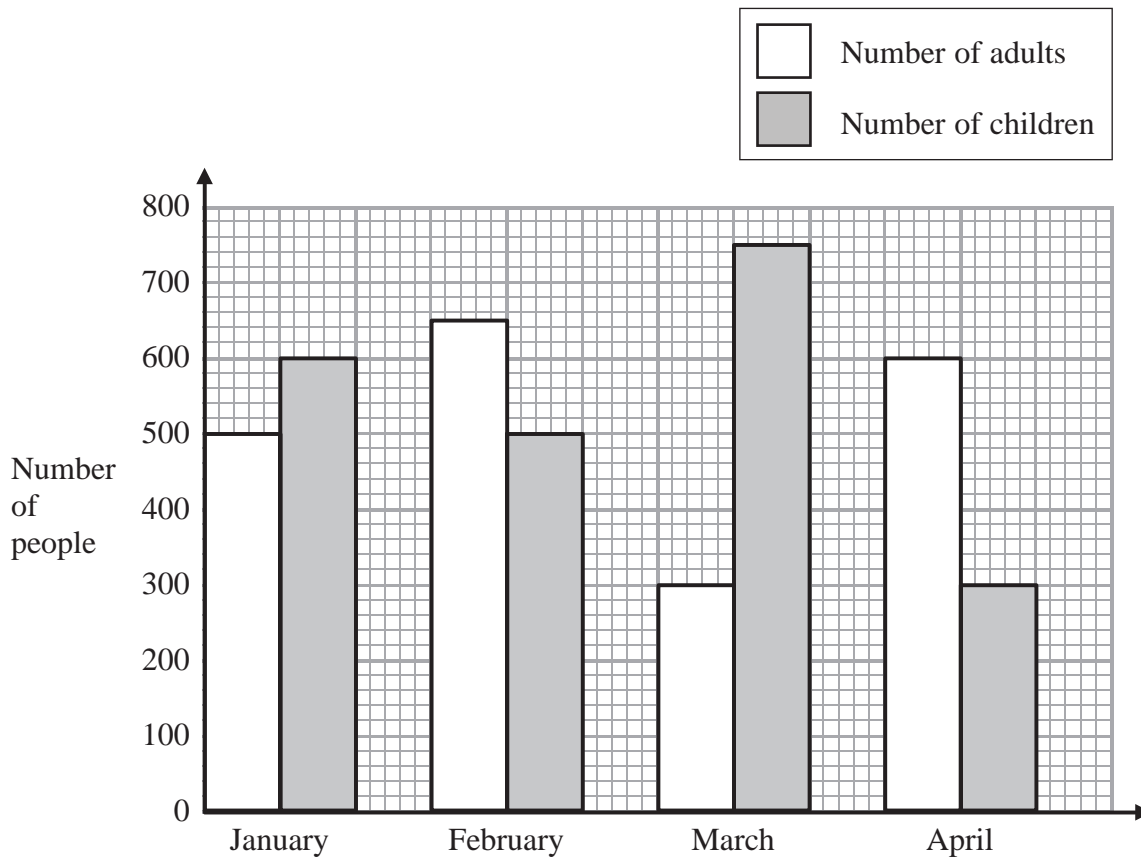
(d) Using the graph write down the time taken for this delivery.

.....minutes

(1)

(Total for Question 137 is 5 marks)

139 The graph shows the number of adults and the number of children going to a museum each month from January to April.



(a) How many adults went to the museum in March?

.....
(1)

More children than adults went to the museum in the 4 months from January to April.

(b) Work out how many more.

.....
(3)

(Total for Question 139 is 4 marks)

140 Here is a list of 12 numbers.

12 15 18 12 15 12 16 13 17 15 12 17

(a) Write down the mode.

.....
(1)

(b) Work out the range.

.....
(2)

(c) Work out the median.

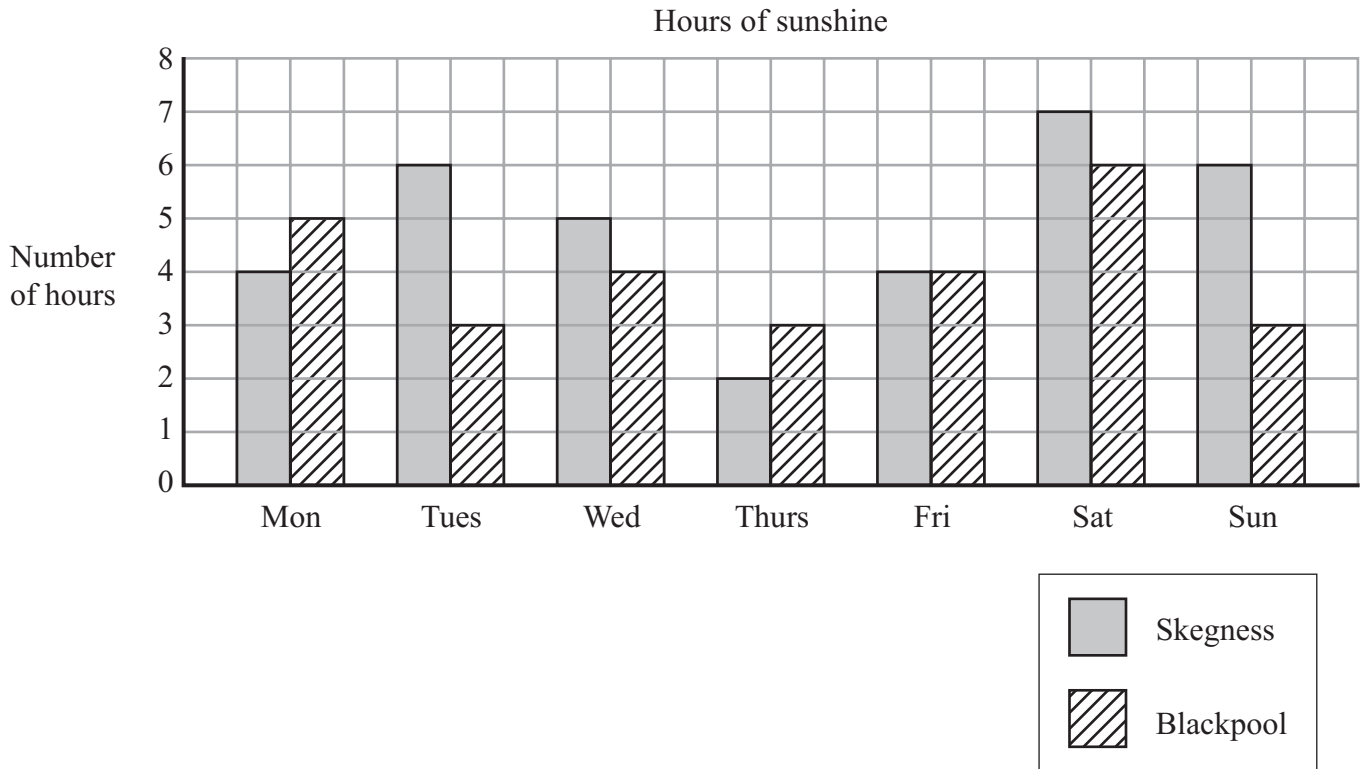
.....
(2)

(d) Work out the mean.

.....
(2)

(Total for Question 140 is 7 marks)

141 The bar chart shows the number of hours of sunshine each day last week in Skegness and in Blackpool.



(a) How many hours of sunshine did Skegness have on Wednesday?

.....hours
(1)

(b) Blackpool had 6 hours of sunshine one day.

Which day?

.....
(1)

(c) In total, Skegness had more hours of sunshine than Blackpool last week.

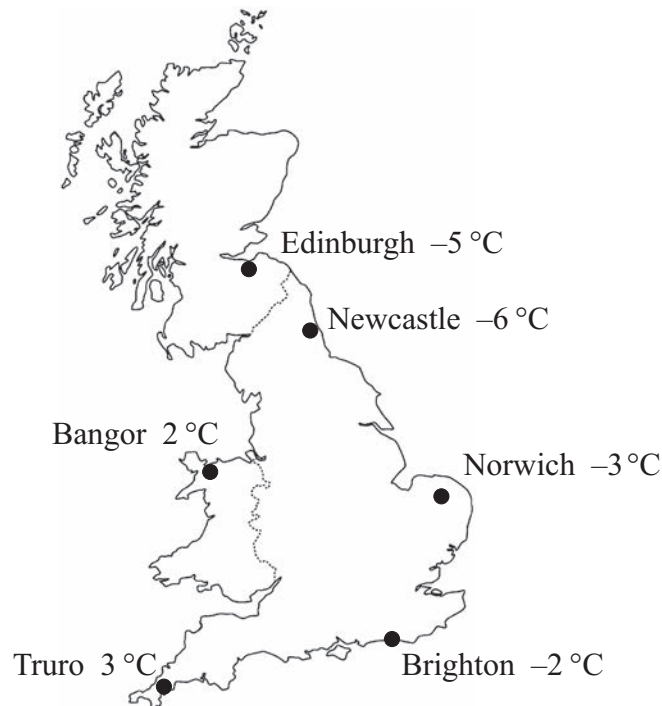
How many hours more?

.....hours
(2)

(Total for Question 141 is 4 marks)

142 Here is a map of Great Britain.

The map shows the temperatures in some cities at midnight on 20th January.



(a) Which city had the lowest temperature at midnight?

.....
(1)

In Brighton, the temperature rose by 5 °C between midnight on 20th January and midday on 21st January.

(b) What was the temperature in Brighton at midday on 21st January?

..... °C
(1)

At midnight on 20th January, the temperature in Nottingham was halfway between the temperature in Truro and the temperature in Edinburgh.

(c) What was the temperature in Nottingham?

..... °C
(2)

(Total for Question 142 is 4 marks)

143 Here is the number of goals scored by a football team in each of its first 10 games.

3 1 4 2 0 1 1 1 3 2

(a) Write down the mode.

.....
(1)

(b) Work out the mean number of goals for the first 10 games.

.....
(2)

In the 11th game the team scored 4 goals.

In the 12th game the team scored 2 goals.

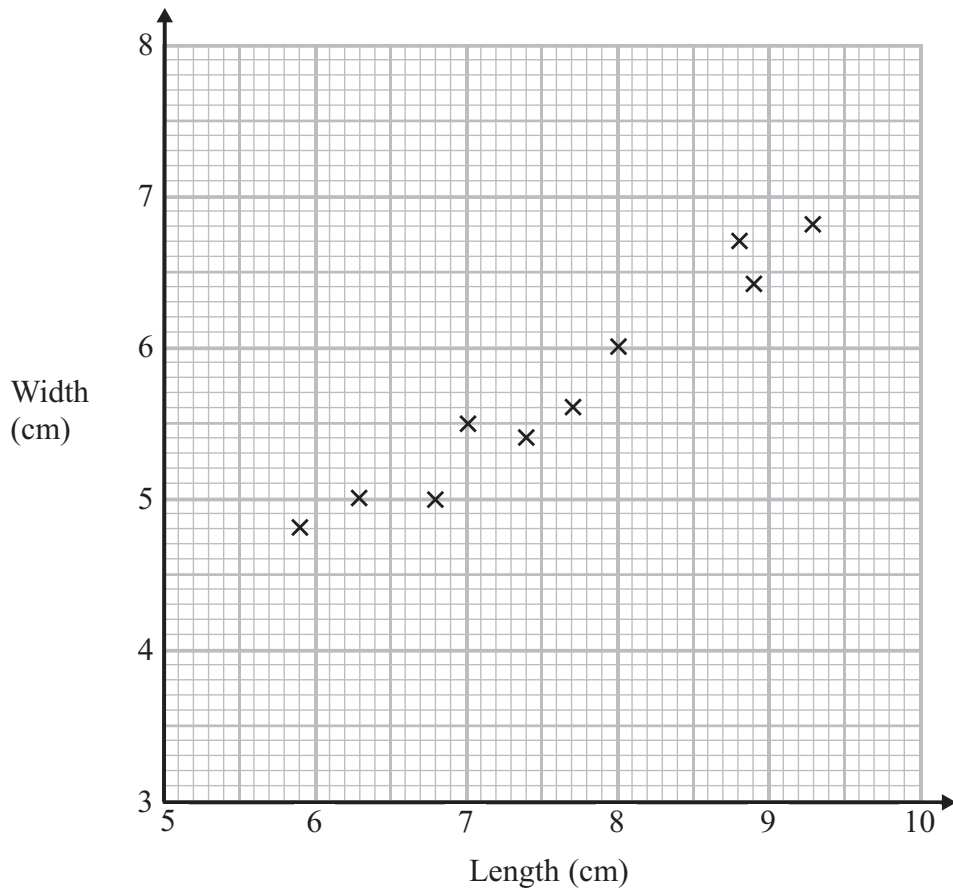
*(c) Will the mean number of goals for the 12 games be greater than or less than the mean number of goals for the first 10 games?

You must explain your answer.

(2)

(Total for Question 143 is 5 marks)

144 The scatter graph shows some information about ten pine cones from the same tree. It shows the length and the width of each pine cone.



(a) Describe the relationship between the length and the width of a pine cone.

.....

.....

(1)

Another pine cone from this tree has a length of 8.4 cm.

(b) Estimate the width of this pine cone.

.....cm

(2)

(Total for Question 144 is 3 marks)

145 The table shows some information about 5 students.

Name	Gender	Age	Favourite subject
Ella	Female	16	Science
Liam	Male	15	French
Neil	Male	12	History
Penny	Female	15	Maths
Rashida	Female	14	English

(a) Write down Liam's favourite subject.

.....
(1)

(b) Write down the name of the oldest student.

.....
(1)

(c) Write down the name of the female student who is 15 years old.

.....
(1)

(Total for Question 145 is 3 marks)

146 Here is a list of numbers.

12 19 12 15 11 15 12 13 17

Find the median.

.....
(Total for Question 146 is 2 marks)

147 Chris works in a cafe.

At noon one day he records the number of customers sitting at each table in the cafe.

Here are his results.

Number of customers sitting at a table	Number of tables
0	4
1	5
2	10
3	7
4	3
5	1

(a) Work out the total number of tables in the cafe.

.....
(1)

(b) Work out the total number of customers sitting at tables in the cafe.

.....
(2)

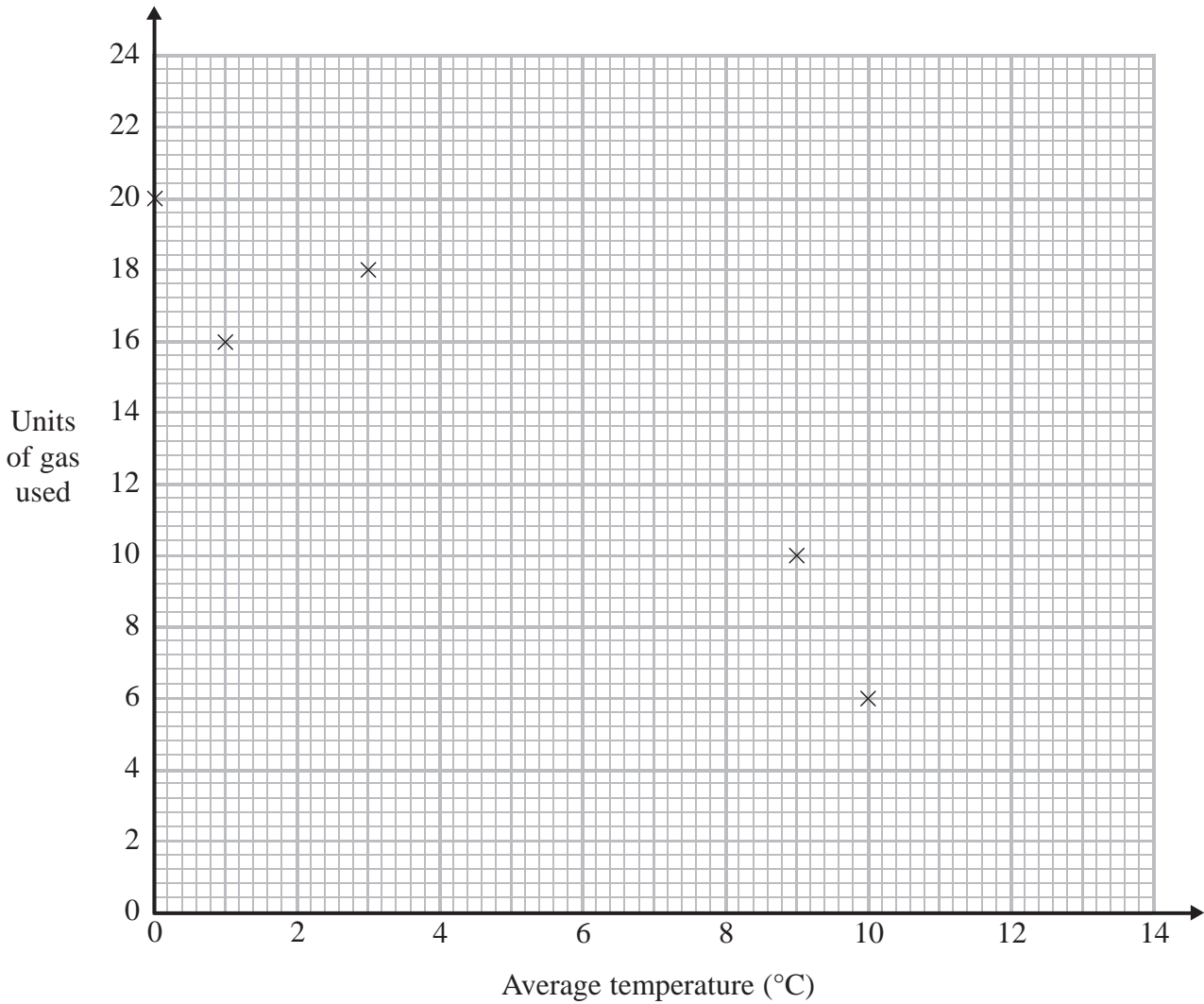
(c) Work out the mean number of customers sitting at a table.

.....
(2)

(Total for Question 147 is 5 marks)

148 The table shows the average temperature on each of seven days and the number of units of gas used to heat a house on these days.

Average temperature (°C)	0	1	3	9	10	12	13
Units of gas used	20	16	18	10	6	6	2



(a) Complete the scatter graph to show the information in the table.
The first 5 points have been plotted for you.

(1)

(b) Describe the relationship between the average temperature and the number of units of gas used.

.....

.....

(1)

(c) Estimate the average temperature on a day when 12 units of gas are used.

..... °C

(2)

(Total for Question 148 is 4 marks)

149 The table shows some information about seven different mobile phones.

Mobile phone	Price (£)	Weight (g)	Camera	Music player	Radio
Sonsang A125	40	88	yes	yes	yes
Sonsang A220	25	95	no	no	yes
Sonsang A335	10	102	no	no	no
PK 340	42	92	yes	yes	yes
PK 390	35	100	no	yes	yes
Nota M1	25	90	yes	yes	no
Nota M8	38	77	yes	yes	yes

(a) Write down the name of the most expensive mobile phone.

.....
(1)

(b) Write down the price of the cheapest mobile phone that has a music player and a radio.

£.....
(1)

(c) Work out the difference between the weight of the heaviest mobile phone and the weight of the lightest mobile phone.

..... g
(2)

(Total for Question 149 is 4 marks)

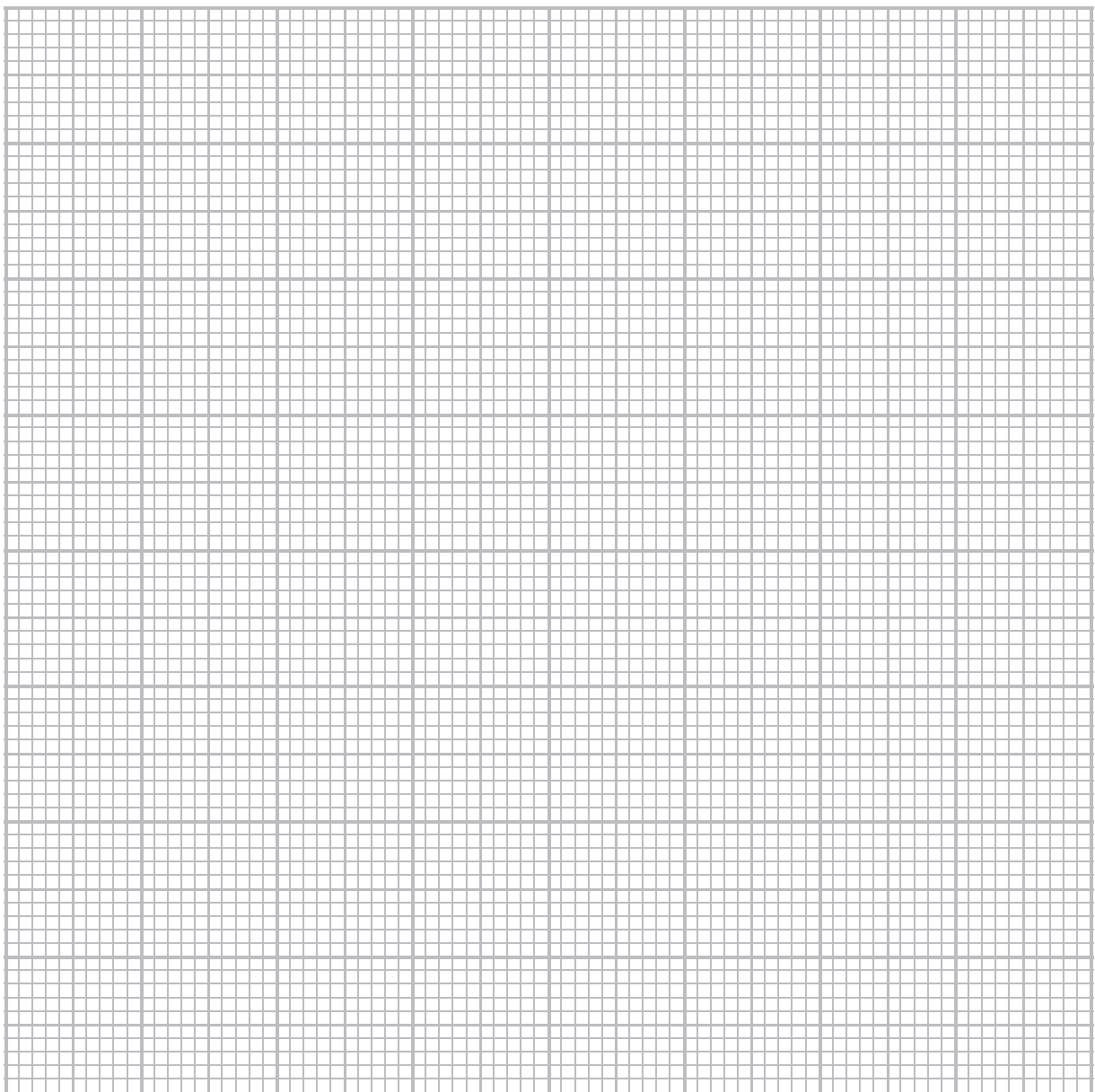
***150** Lev counts the number of bicycles and the number of motorbikes he sees on each of five mornings.

The table shows his results.

	Monday	Tuesday	Wednesday	Thursday	Friday
Bicycles	10	12	12	13	8
Motorbikes	5	4	7	2	6

Lev wants to compare this information.

On the grid, draw a suitable chart or diagram.



(Total for Question 150 is 4 marks)

151 Vicky counts the number of birds in her garden at 8 am on each of 10 days.

5 3 3 2 0 2 4 2 4 15

(a) Write down the mode.

.....
(1)

(b) Work out the mean.

.....
(2)

Vicky counts the number of birds in her garden at 5 pm on each of 20 days. She records the information in a frequency table.

Number of birds	Frequency
0	3
1	2
2	3
3	4
4	5
5	3

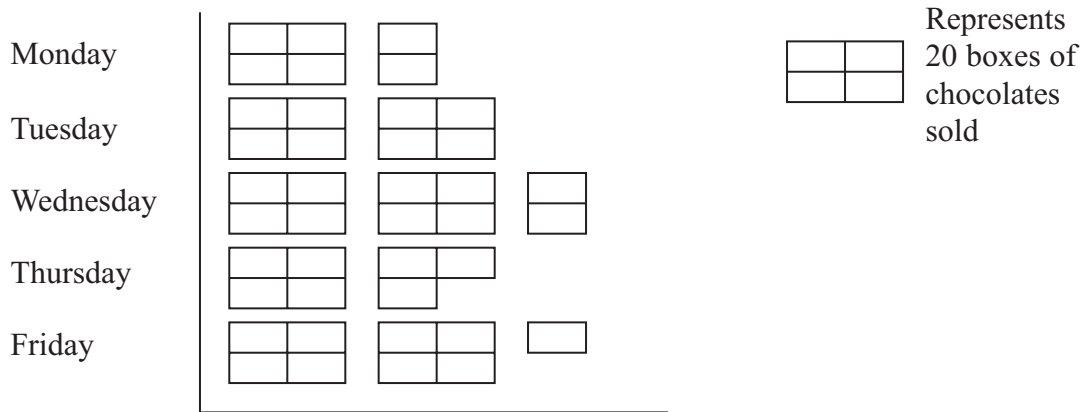
(c) Work out the total number of birds Vicky records in the frequency table.

.....
(2)

(Total for Question 151 is 5 marks)

152 Here is a pictogram.

It shows the number of boxes of chocolates Mr Fenn sold last week from Monday to Friday.



What fraction of the total number of these boxes of chocolates did Mr Fenn sell on Tuesday?

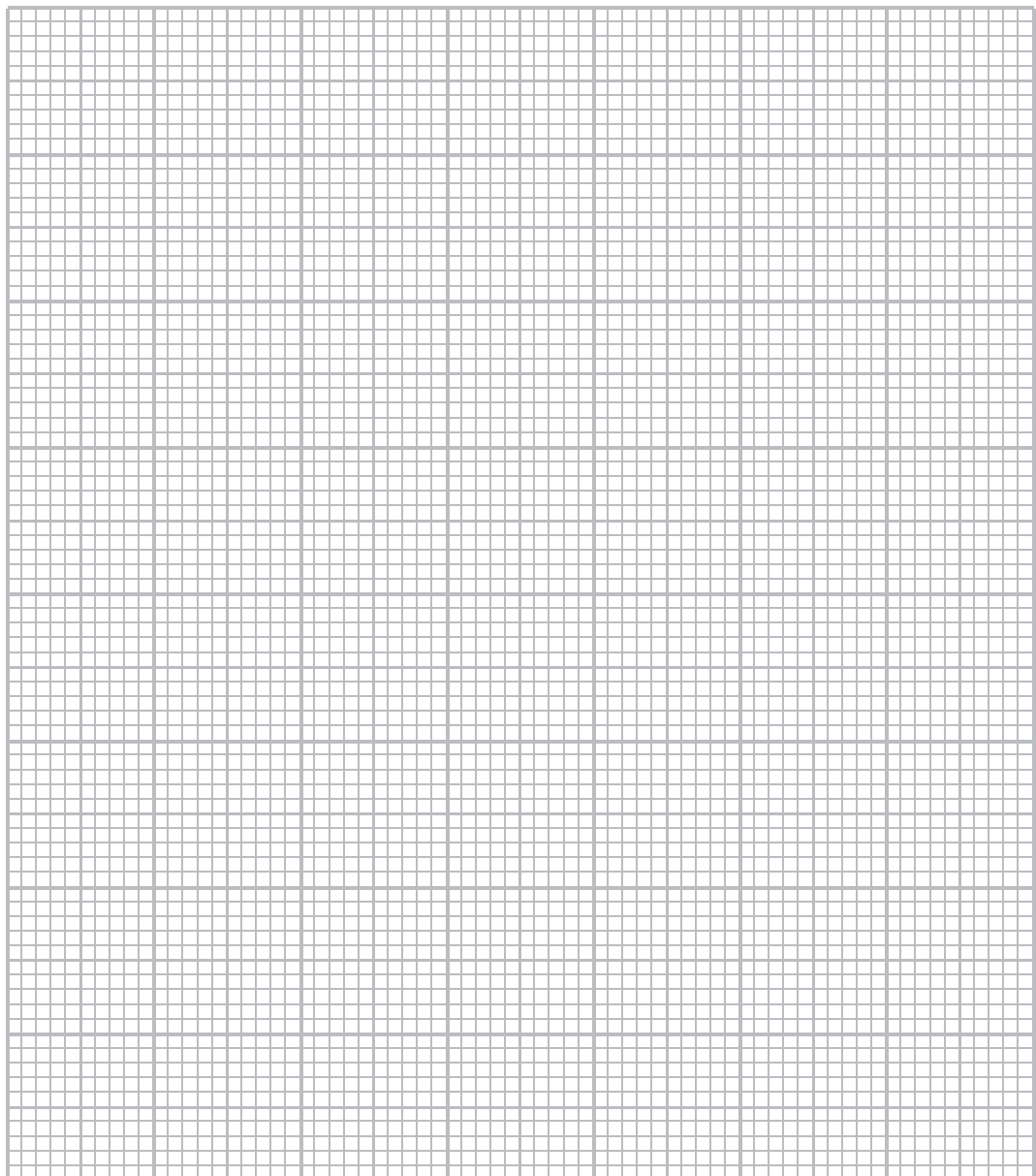
(Total for Question 152 is 3 marks)

***153** Kitty and George sell cars.

The table shows the numbers of cars sold by Kitty and by George in the first four months of 2013

	January	February	March	April
Kitty	2	5	13	10
George	4	7	9	10

Show this information in a suitable diagram.



(Total for Question 153 is 4 marks)

154 Here is the number of goals a hockey team scored in each of 10 matches.

3 4 3 2 5 3 5 6 2 4

Find

(i) the median

.....

(ii) the range

.....

(iii) the mean

.....

(Total for Question 154 is 6 marks)

155 Here is a list of all the coins in Amira's purse.

£1	5p	20p	1p
20p	1p	10p	£1
20p	10p	£1	20p
10p	20p	20p	5p

Complete the table for this information.

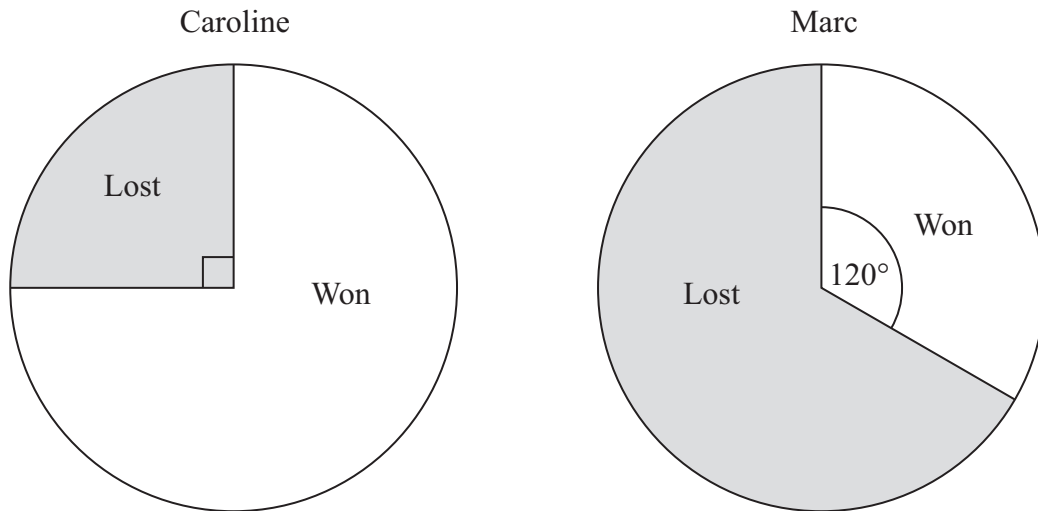
Coin	Tally	Frequency
£1		
50p		
20p		
10p		
5p		
2p		
1p		

(Total for Question 155 is 2 marks)

156 Caroline and Marc are in a darts team.

The pie charts show information about the number of games Caroline and Marc each won last year.

They also show information about the number of games Caroline and Marc each lost last year.



Caroline played 52 games.

Marc played 150 games.

Marc won more games than Caroline.

How many more?

.....
(Total for Question 156 is 3 marks)

157 The table shows some information about the amounts of time, in minutes, that Dave and Nick spent using their mobile phones on four days last week.

	Time (minutes)	
	Dave	Nick
Thursday	7	6
Friday	6	11
Saturday	17	12
Sunday	28	35

Nick spent less than 10 minutes using his mobile phone on one of these four days.

(a) Which day?

.....
(1)

On Sunday Nick spent more time using his mobile phone than Dave.

(b) How much more time?

..... minutes
(1)

*(c) Work out who spent the greater total amount of time using his mobile phone.
You must show all your working.

(3)

(Total for Question 157 is 5 marks)

158 Here are the test marks for the students in Mrs Potter's maths class.

28 36 25 43 18 39 30
36 27 31 33 14 22 36
23 12 38 36 40 45 27

(a) Complete the frequency table for these marks.

Mark	Tally	Frequency
10 – 19		
20 – 29		
30 – 39		
40 – 49		

(3)

(b) Work out the number of these students getting less than 20 marks.

.....
(1)

(Total for Question 158 is 4 marks)

159 The table shows the temperature every four hours one day in December.

Time	Temperature
2 am	6 °C
6 am	-4 °C
10 am	-2 °C
2 pm	8 °C
6 pm	5 °C
10 pm	-1 °C

(a) Write down the time with the lowest temperature.

.....
(1)

(b) Work out the difference between the temperature at 2 pm and the temperature at 6 pm.

..... °C
(1)

Between 10 pm and midnight the temperature goes down 5 °C.

(c) Work out the temperature at midnight.

..... °C
(2)

(Total for Question 159 is 4 marks)

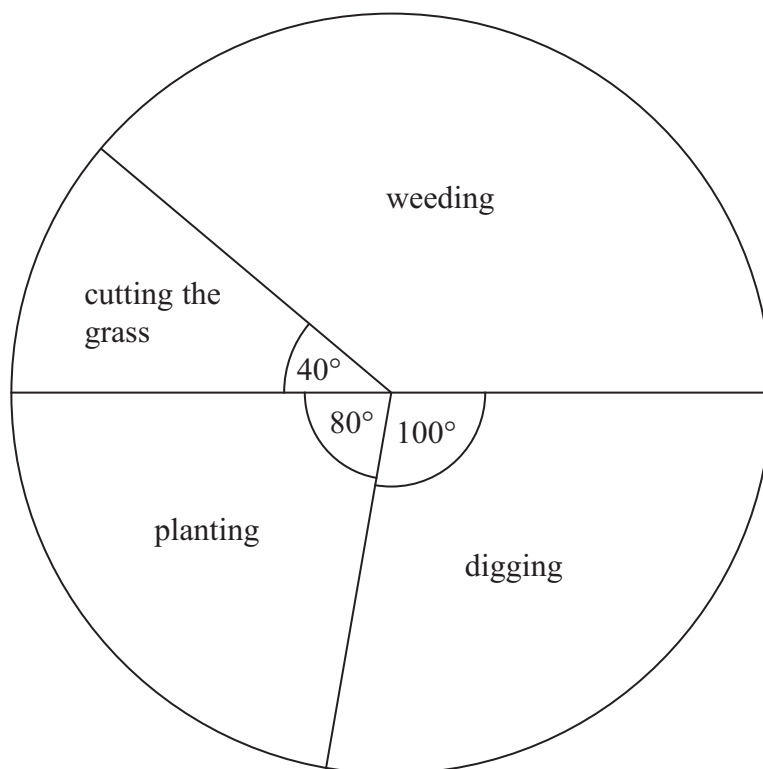
160 The two-way table shows some information about the numbers of boys, girls and teachers at three schools.

	School A	School B	School C	Total
Boys	85	29	54	
Girls		31	47	171
Teachers	13	5		
Total	191			366

Complete the two-way table.

(Total for Question 160 is 3 marks)

161 The pie chart shows some information about the time Gill spent working in her garden one month.



(a) What fraction of the time did Gill spend cutting the grass?

.....
(1)

Gill spent 7 hours weeding.

(b) How much time did Gill spend planting?

..... hours
(3)

(Total for Question 161 is 4 marks)

162 Here is a list of the dried fruit 24 people liked best.

currants sultanas currants raisins sultanas prunes
prunes currants sultanas prunes raisins raisins
raisins currants currants prunes sultanas sultanas
raisins raisins sultanas sultanas prunes sultanas

(a) Complete the table for the information in the list.

Dried Fruit	Tally	Frequency
currants		
prunes		
raisins		
sultanas		

(2)

(b) Draw a suitable diagram to show this information in the table.
Use the space below or the grid opposite.

(3)

(Total for Question 162 is 5 marks)

163 Here is a list of numbers.

4 8 5 9 10 5 6 3 4

(a) Work out the median.

.....
(2)

(b) Work out the mean.

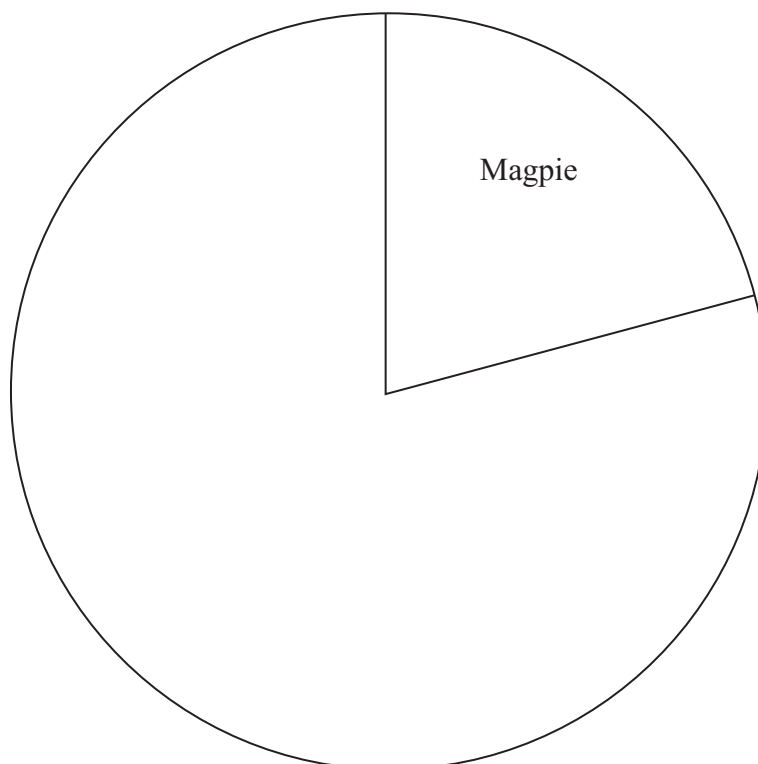
.....
(2)

(Total for Question 163 is 4 marks)

164 The table gives some information about the birds Paula sees in her garden one day.

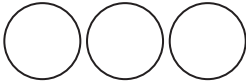


Bird	Frequency
Magpie	15
Thrush	10
Starling	20
Sparrow	27


Complete the accurate pie chart.



(Total for Question 164 is 3 marks)

165 The pictogram shows the number of DVDs sold in a shop on Monday, on Tuesday and on Wednesday last week.

Monday	
Tuesday	
Wednesday	
Thursday	
Friday	

Key: 
represents 8 DVDs

(a) Write down the number of DVDs sold on Monday.

.....
(1)

(b) Write down the number of DVDs sold on Wednesday.

.....
(1)

16 DVDs were sold on Thursday.
28 DVDs were sold on Friday.

(c) Use this information to complete the pictogram.

(2)

(Total for Question 165 is 4 marks)

166 The table gives information about five printers.

Printer	Cost	Wi-fi	Print from a camera	Printing cost per page
Smart	£260	✓	✓	4p
Office	£138		✓	2p
Kanon	£285	✓	✓	5p
Elton	£160	✓		4p
Quikprint	£115		✓	3p

(a) Which printer costs the most?

.....
(1)

(b) Which printers do **not** have wi-fi?

.....
(1)

(c) Which printer has a printing cost per page of 4p **and** can print from a camera?

.....
(1)

(Total for Question 166 is 3 marks)

167 Kaz rolled a dice 10 times.

Here are her scores.

2 6 5 4 4 2 1 3 4 3

(a) Find the mode.

.....
(1)

(b) Work out the mean.

.....
(2)

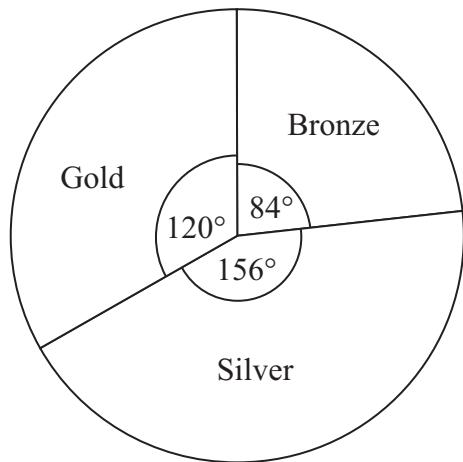
(c) Work out the range.

.....
(2)

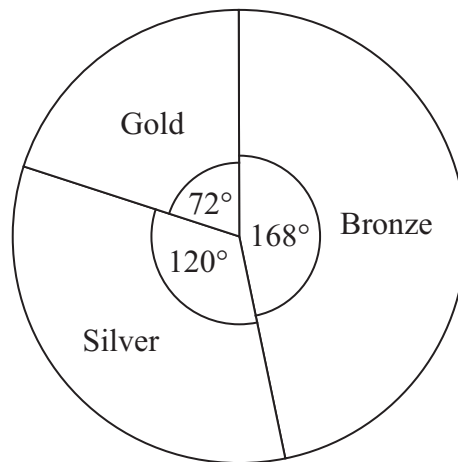
(Total for Question 167 is 5 marks)

168 The pie charts show some information about the numbers of medals won by Germany and by the Russian Federation in the 2010 Winter Olympics.

Medals won by Germany



Medals won by the Russian Federation



Germany won 7 bronze medals.

(a) How many gold medals did Germany win?

.....

(2)

(b) Graham says,

‘The pie charts show that Germany won more gold medals than the Russian Federation’.

Is Graham right?

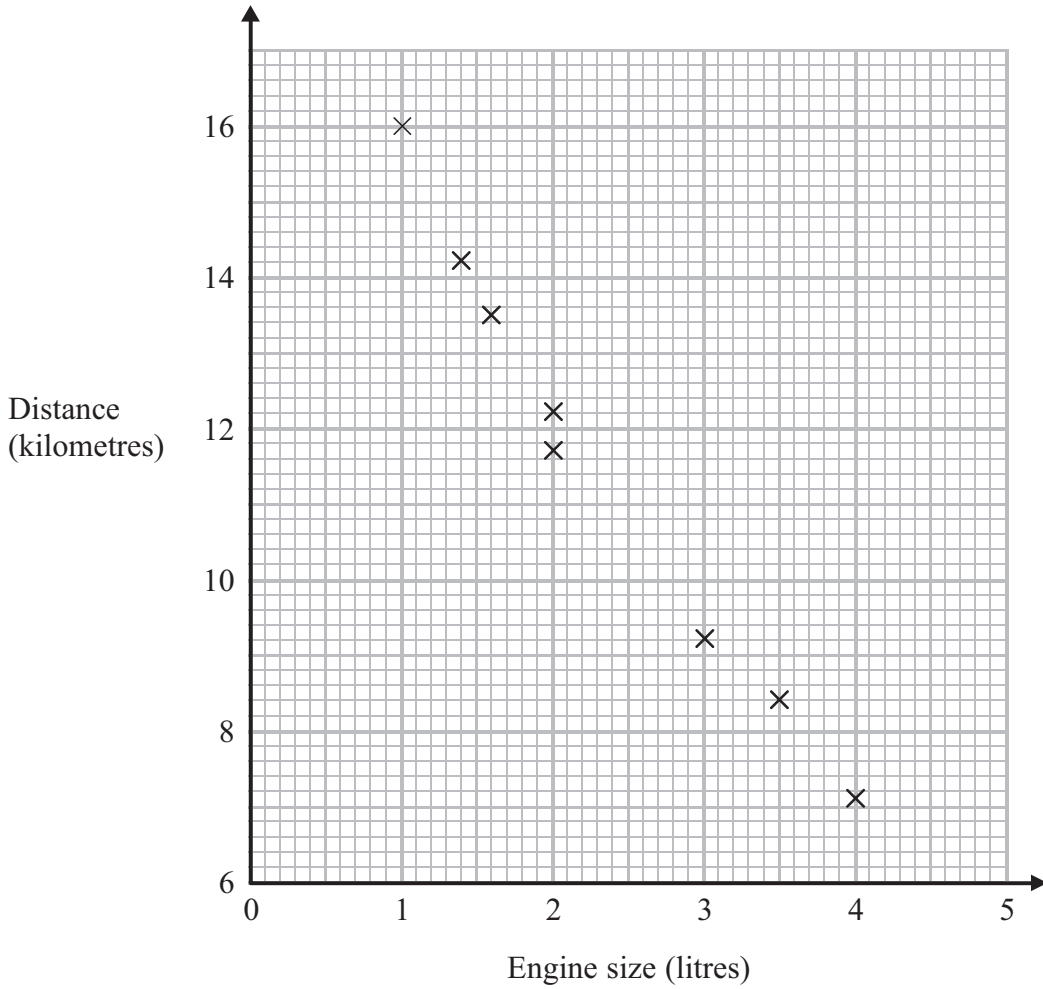
You must explain your answer.

.....

(1)

(Total for Question 168 is 3 marks)

169 The scatter graph shows some information about 8 cars. For each car it shows the engine size, in litres, and the distance, in kilometres, the car travels on one litre of petrol.



(a) What type of correlation does the scatter graph show?

.....
(1)

A different car of the same type has an engine size of 2.5 litres.

(b) Estimate the distance travelled on one litre of petrol by this car.

..... kilometres
(2)

(Total for Question 169 is 3 marks)