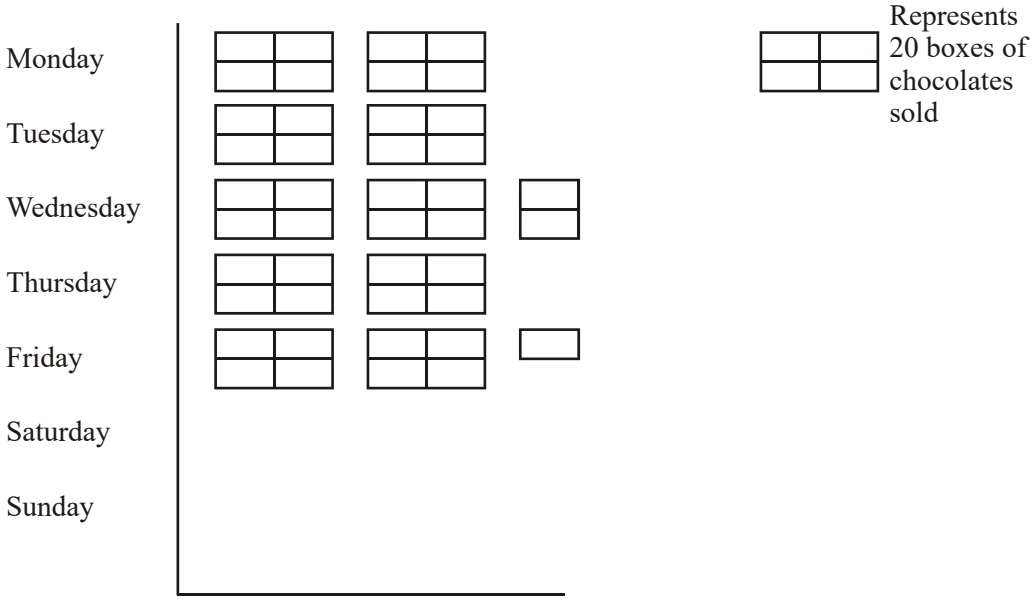
1. Here is a pictogram.
It shows the number of boxes of chocolates sold last week from Monday to Friday.



(a) Write down the number of boxes of chocolates sold on

(i) Monday, ...

(ii) Wednesday. .....

(2)

On Saturday, 100 boxes of chocolates were sold.

(b) Show this on the pictogram.

(1)

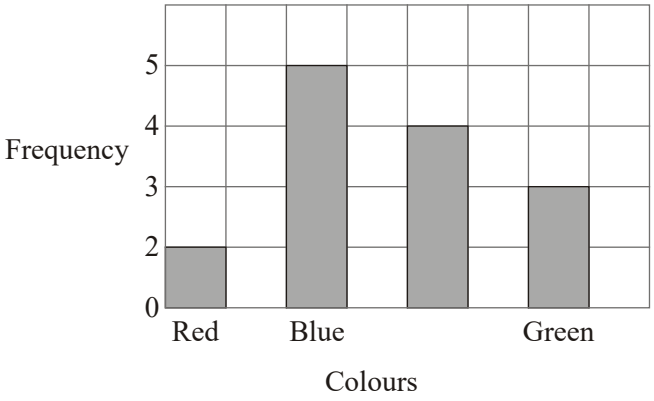
On Sunday, 55 boxes of chocolates were sold.

(c) Show this on the pictogram.

(1)
(Total 4 marks)

2. Ray and Clare are pupils at different schools.
They each did an investigation into their teachers' favourite colours.

Here is Ray's bar chart of his teachers' favourite colours.



(a) Write down two things that are wrong with Ray's bar chart.

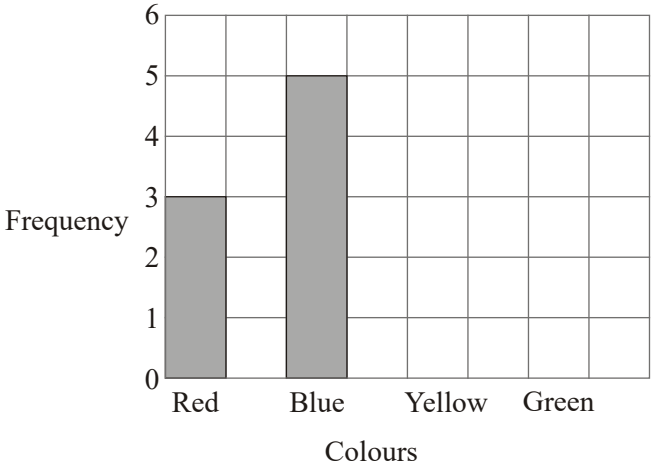
.....

.....

(2)

Clare drew a bar chart of her teachers' favourite colours.

Part of her bar chart is shown below.



4 teachers said that Yellow was their favourite colour.
2 teachers said that Green was their favourite colour.

(b) Complete Clare's bar chart.

(2)

(c) Which colour was the mode for the teachers that Clare asked?

.....

(1)

(d) Work out the number of teachers Clare asked.

.....

(1)

(e) Write down the fraction of the number of teachers that Clare asked who said Red was their favourite colour.

.....

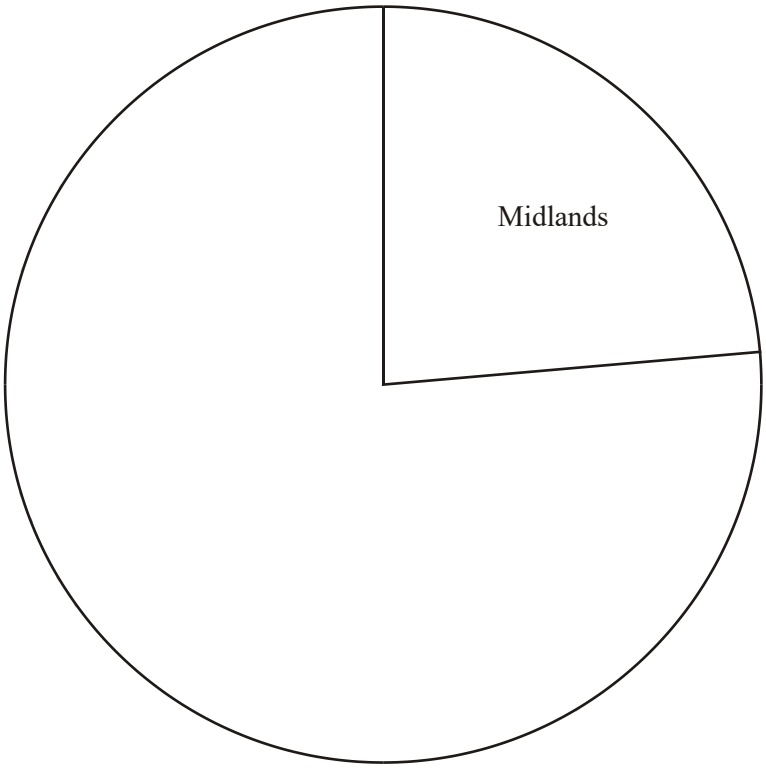
(1)

(Total 7 marks)

3. Bhavana asked some people which region their favourite football team came from.
The table shows her results.

Region	Frequency	
Midlands	22	
London	36	
Southern England	8	
Northern England	24	

Complete the accurate pie chart to show these results.
Use the circle given below.

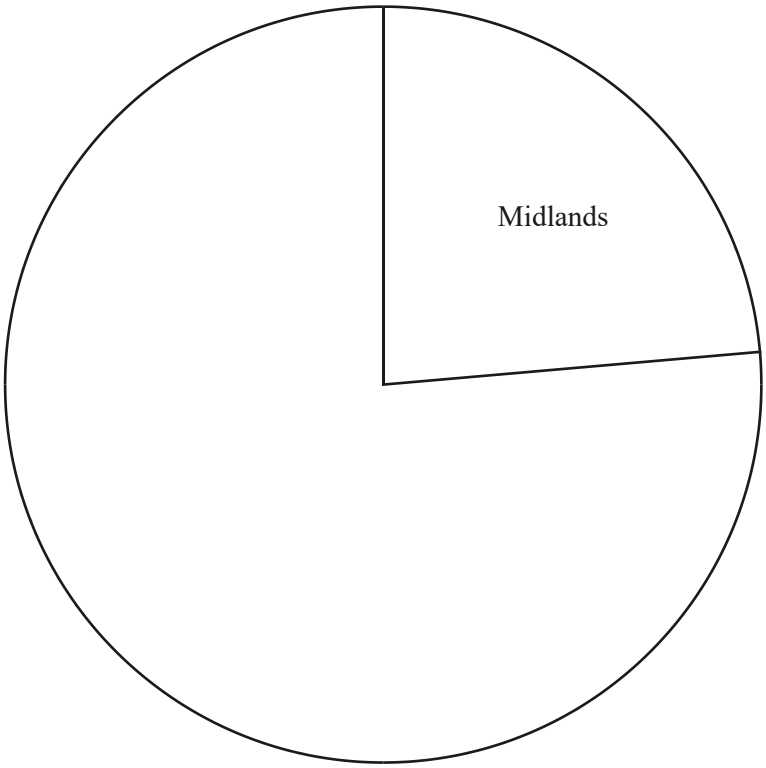


(Total 3 marks)

4. Bhavana asked some people which region their favourite football team came from.
The table shows her results.

Region	Frequency	
Midlands	22	
London	36	
Southern England	8	
Northern England	24	

Complete the accurate pie chart to show these results.
Use the circle given below.

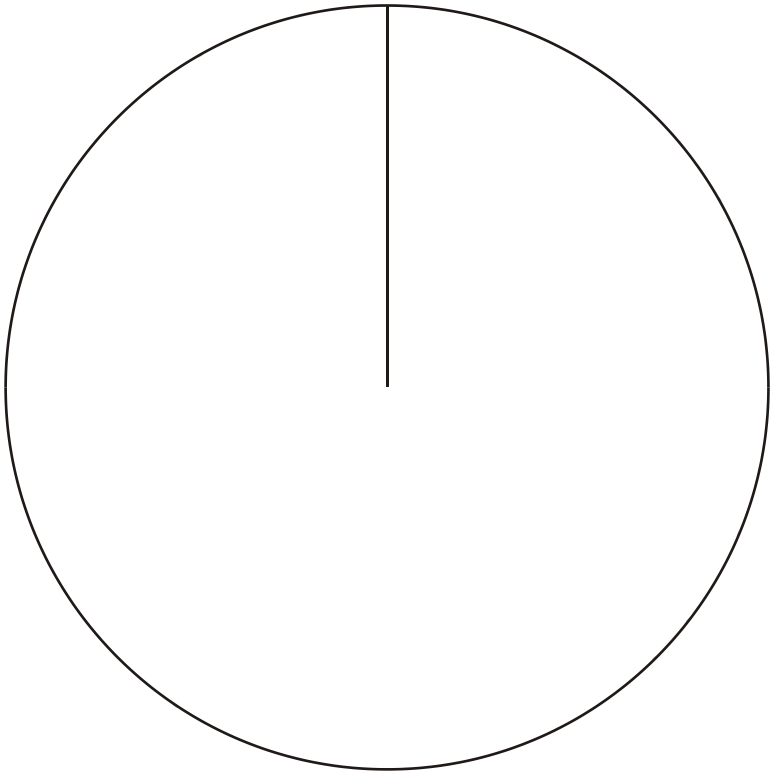


(Total 3 marks)

5. The table gives information about the lunch arrangements of 900 students.

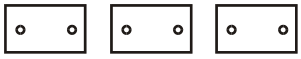
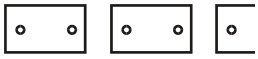
Choice	Frequency	Angle
Full meal	200	
Hot snack	290	
Cold snack	260	
Packed lunch	150	
Total	900	

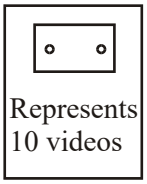
Draw an accurate pie chart to show this information.



(Total 4 marks)

6. The pictogram shows the number of videos borrowed from a shop on Monday and on Tuesday.

Monday	
Tuesday	
Wednesday	
Thursday	



(a) Write down the number of videos borrowed on

(i) Monday, ...

(ii) Tuesday. .....

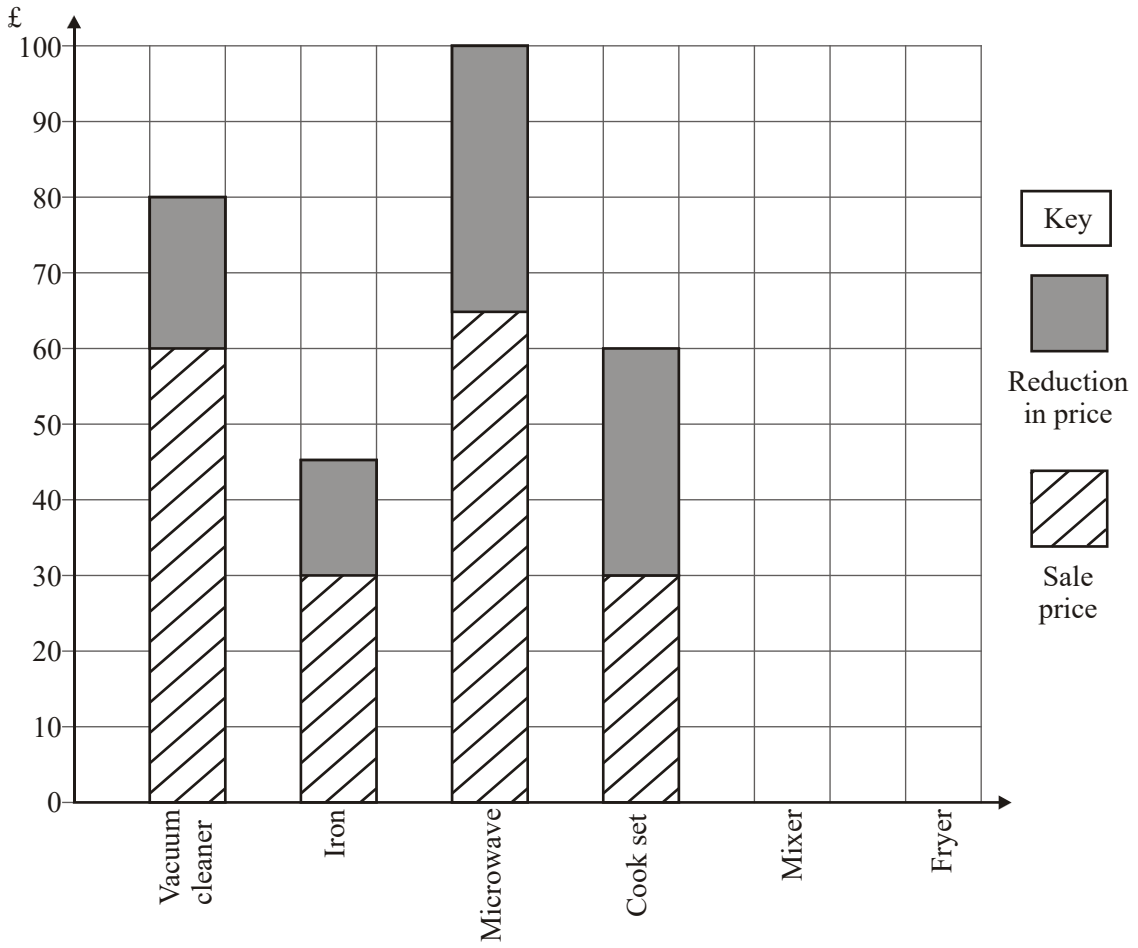
(2)

On Wednesday, 40 videos were borrowed.
On Thursday, 15 videos were borrowed.

(b) Show this information on the pictogram.

(2)
(Total 4 marks)

7. A shop has a sale.
The bar chart shows some information about the sale.



The normal price of a vacuum cleaner is £80
The sale price of a vacuum cleaner is £60
The price of a vacuum cleaner is reduced from £80 to £60

(a) Write the sale price of a vacuum cleaner as a fraction of its normal price.
Give your answer in its simplest form.

.....

(2)

(b) Find the reduction in the price of the iron.

£ .....

(1)

(c) Which **two** items have the same sale price?

..... and .....

(1)

(d) Which item has the greatest reduction in price?

.....

(1)

Mixer	
Normal price	£90
Sale price	£70

Fryer	
Normal price	£85
Sale price	£70

(e) Complete the bar chart for the mixer and the fryer.

(2)
(Total 7 marks)

8. Sandra carries out a survey of 90 Year 11 students.
She asks them their favourite snack.

She draws this accurate pie chart.

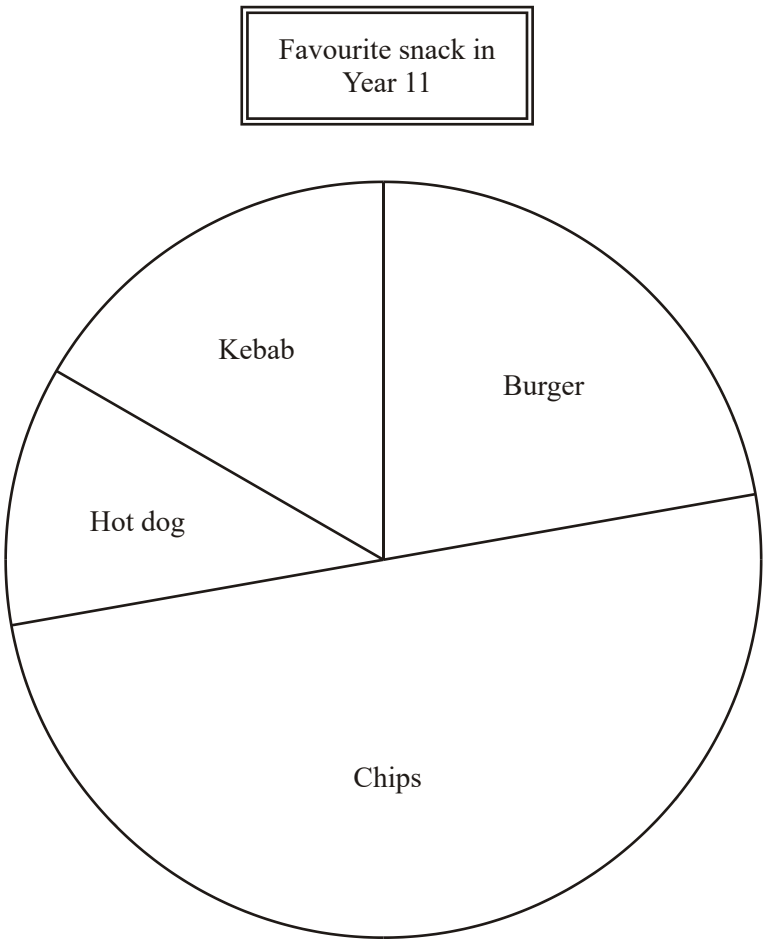


Diagram **accurately** drawn

Use the pie chart to complete the table.

Favourite snack in Year 11	**Frequency**	**Angle**
Burger	20	
Chips	45	180°
Hot dog		
Kebab		
Total	90	

(Total 4 marks)

9. Daniel carried out a survey of his friends' favourite flavour of crisps.

Here are his results.

Plain	Chicken	Bovril	Salt & Vinegar
Plain	Salt & Vinegar	Plain	Chicken
Plain	Bovril	Plain	Bovril
Chicken	Plain	Bovril	Salt & Vinegar
Bovril	Plain	Plain	Salt & Vinegar

(a) Complete the table to show Daniel's results.

Flavour of crisps	Tally	Frequency
Plain		
Chicken		
Bovril		
Salt & Vinegar		

(3)

(b) Write down the number of Daniel's friends whose favourite flavour was Salt & Vinegar.

……..

(1)

(c) Which was the favourite flavour of most of Daniel's friends?

……..

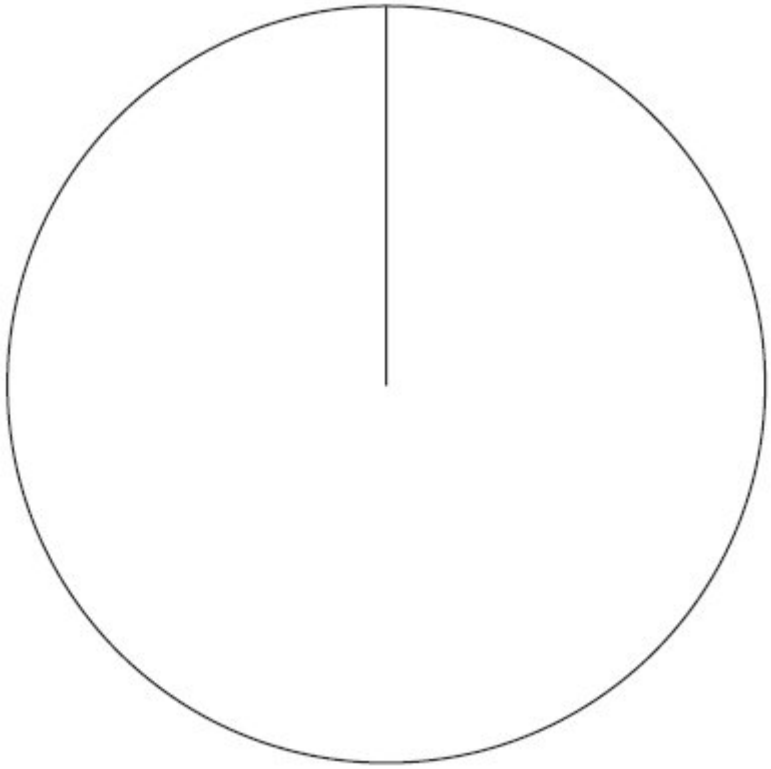
(1)

(Total 5 marks)

10. The table gives information about the medals won by Austria in the 2002 Winter Olympic Games.

Medal	**Frequency**	
Gold	3	
Silver	4	
Bronze	11	

Draw an accurate pie chart to show this information



(Total 4 marks)

11. The table gives information about the number of goals scored by a football team in each match during a season.

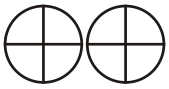
Number of goals	Number of matches
0	9
1	8
2	12
3	5

Work out the total number of goals scored by the football team during the season.

.....

(Total 2 marks)

12. The pictogram shows the number of diamond rings sold by a shop in January, February and March.

January	
February	
March	
April	
May	

Key  represents 4 diamond rings.

(a) Write down the number of diamond rings sold in January.

…….

(1)

(b) Work out how many **more** diamond rings were sold in March than in February.

…….

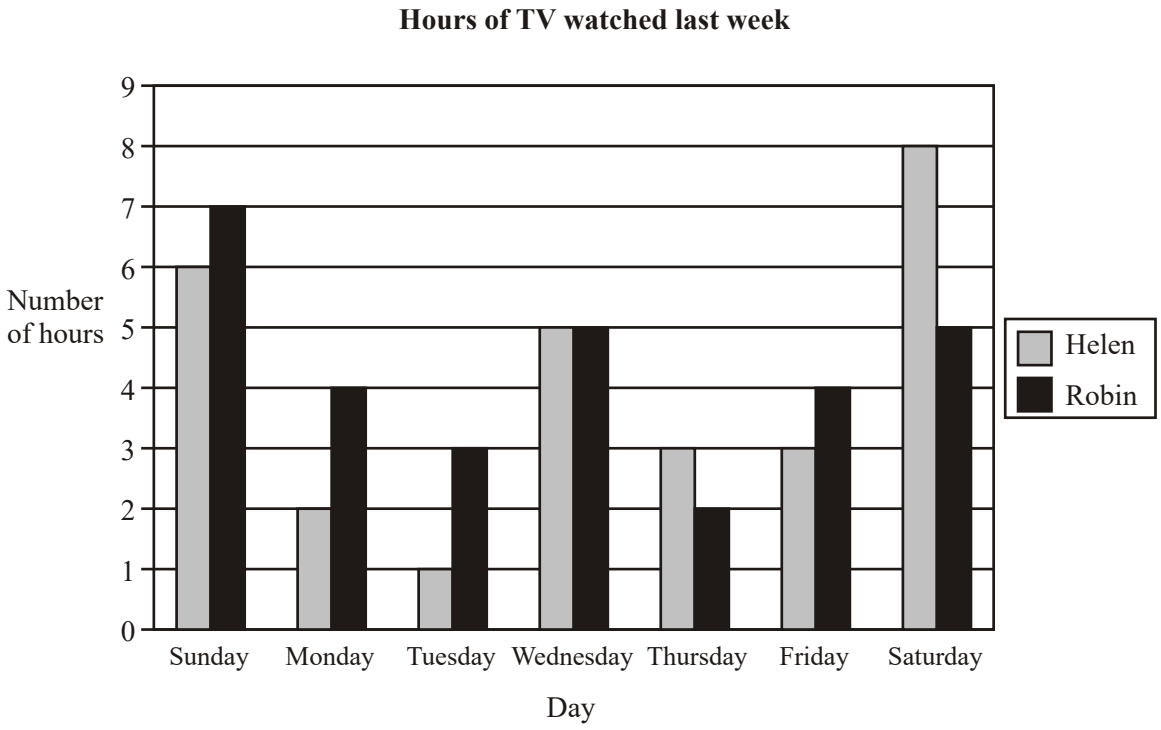
(2)

20 diamond rings were sold in April.
14 diamond rings were sold in May.

(c) Use this information to complete the pictogram.

(2)
(Total 5 marks)

13. Here is a bar chart showing the number of hours of TV that Helen and Robin watched last week.



(a) Write down the number of hours of TV that Helen watched on Monday.

……hours

(1)

(b) On which day did Helen and Robin watch the same number of hours of TV?

……

(1)

(c) (i) Work out the total number of hours of TV that Robin watched on Friday and Saturday.

……hours

(ii) Who watched the greater number of hours of TV on Friday and Saturday? Show your working.

(3)
(Total 5 marks)

14. Amanda collected 20 leaves and wrote down their lengths, in cm.

Here are her results.

5 6 5 2 4 5 8 7 5 4

7 6 4 3 5 7 6 4 8 5

(a) Complete the frequency table to show Amanda's results.

Length in cm	Tally	Frequency
2		
3		
4		
5		
6		
7		
8		

(2)

(b) Write down the modal length.

……cm

(1)

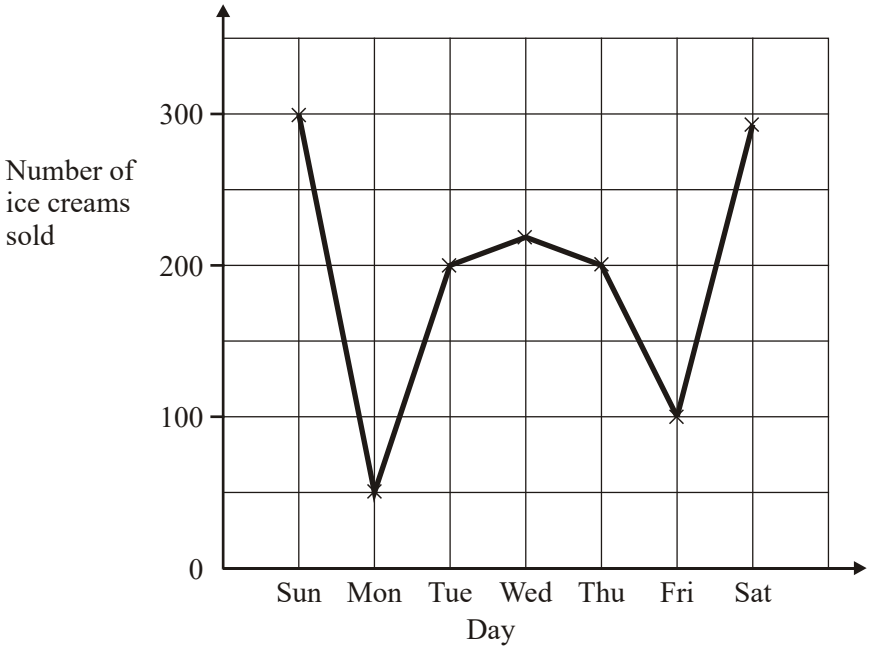
(c) Work out the range.

……cm

(1)

(Total 4 marks)

15. The graph shows the number of ice creams sold each day during one week



(a) How many more ice creams were sold on Tuesday than on Monday?

……ice creams

(1)

(b) Explain what might have happened on Monday.

.....

.....

(1)
(Total 2 marks)

16. Heather carried out a survey about her friends' pets.

Here are her results.

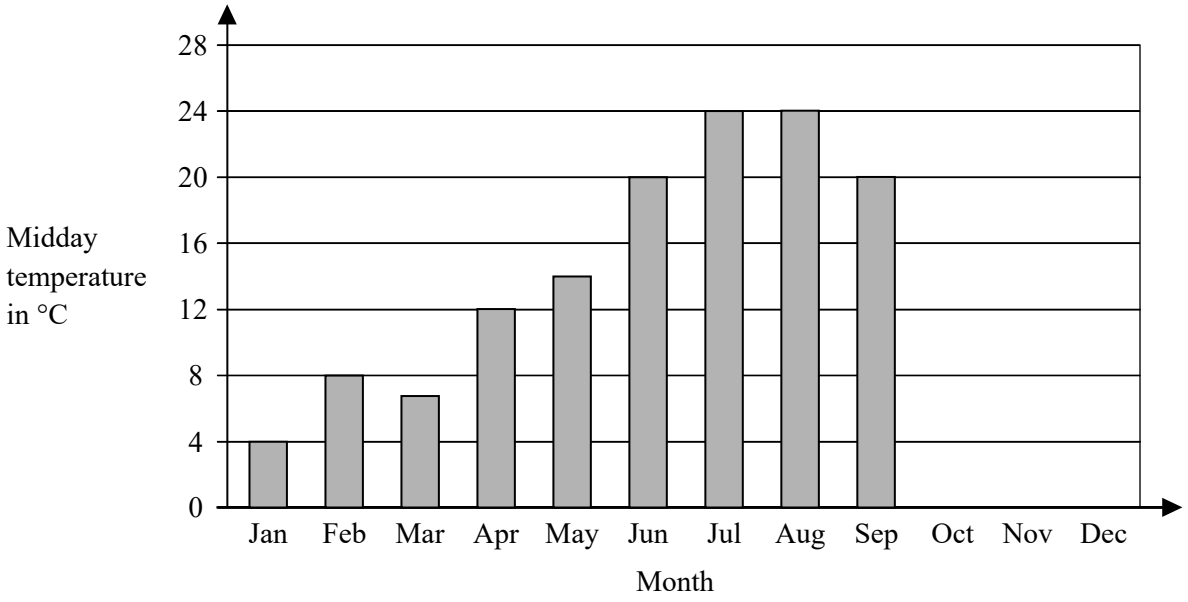
Cat	Cat	Dog	Hamster	Cat
Dog	Hamster	Cat	Cat	Dog
Hamster	Dog	Hamster	Dog	Fish
Cat	Dog	Fish	Cat	Cat

Complete the table to show Heather's results.

Pet	**Tally**	**Frequency**
Cat		
Dog		
Fish		
Hamster		

(Total 3 marks)

17. The bar chart shows some information about the midday temperature in Halifax on the first day of some months last year.



Here are the midday temperatures on the first day of October, November and December.

October	12°C
November	8°C
December	6°C

(a) Complete the bar chart to show this information.

(2)

(b) Which two bars show the highest temperatures?

..... and .....

(1)

(c) Work out the range of the temperatures shown on the bar chart.

..... °C

(1)

(d) Describe what happened to the temperatures on the bar chart between March and July.

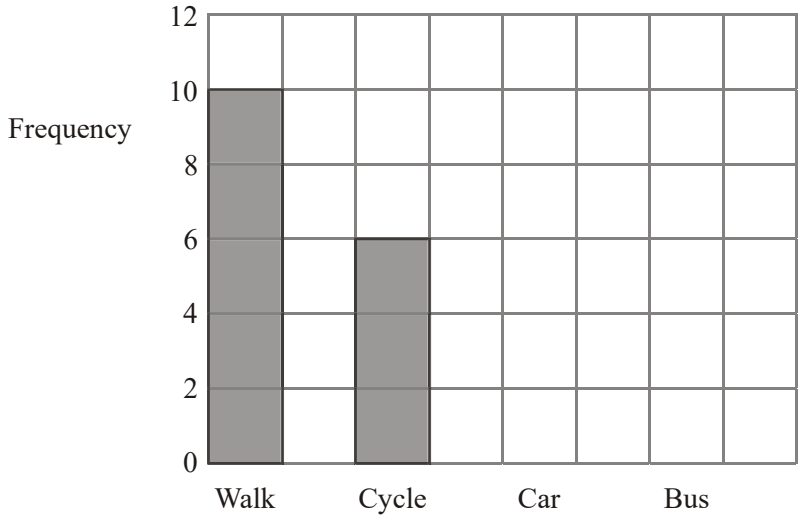
.....

(1)

(Total 5 marks)

18. Sophie asked the students in her class how they travelled to school.

The bar chart shows some information about the results, for everyone in Sophie's class.



4 students travel to school by car.
7 students travel to school by bus.

(a) Complete Sophie's bar chart.

(2)

(b) How many students in Sophie's class cycle to school?

.....

(1)

(c) Which method of travelling to school is used by the greatest number of students in Sophie's class?

.....

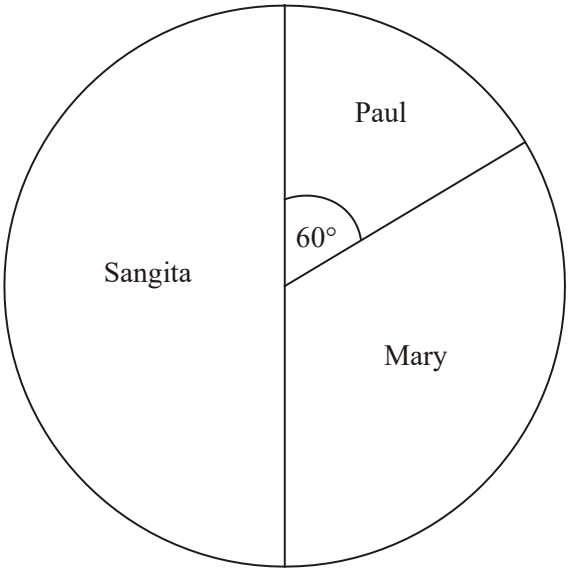
(1)

(d) Work out the total number of students Sophie asked.

.....

(1)
(Total 5 marks)

19. The pie chart gives information about the votes received by Paul, Mary and Sangita in an election.



(a) Who got the least votes?

.....

(1)

The total number of votes in the election was 36

(b) How many votes did Sangita get?

.....

(1)

The angle in the pie chart for Paul is 60°

(c) What fraction of the votes did Paul get?
Write your fraction in its simplest form.

.....

(2)
(Total 4 marks)

20. Kavic wants to collect some information about the different makes of cars in a car park.

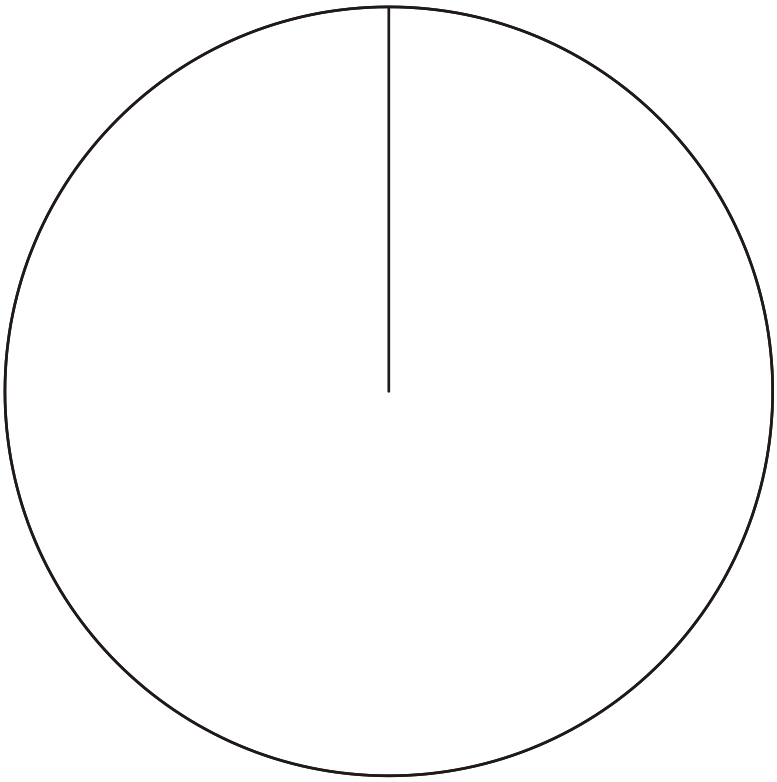
Design a suitable data collection sheet that Kavic could use to collect this information.

(Total 3 marks)

21. Ali asked 120 students at his school "What is your favourite flavour of crisp?"
The table shows his results.

Flavour of crisp	Frequency	Angle
Plain	15	
Cheese & Onion	40	
Salt & Vinegar	55	
Beef	10	

Draw an accurate pie chart to show these results.



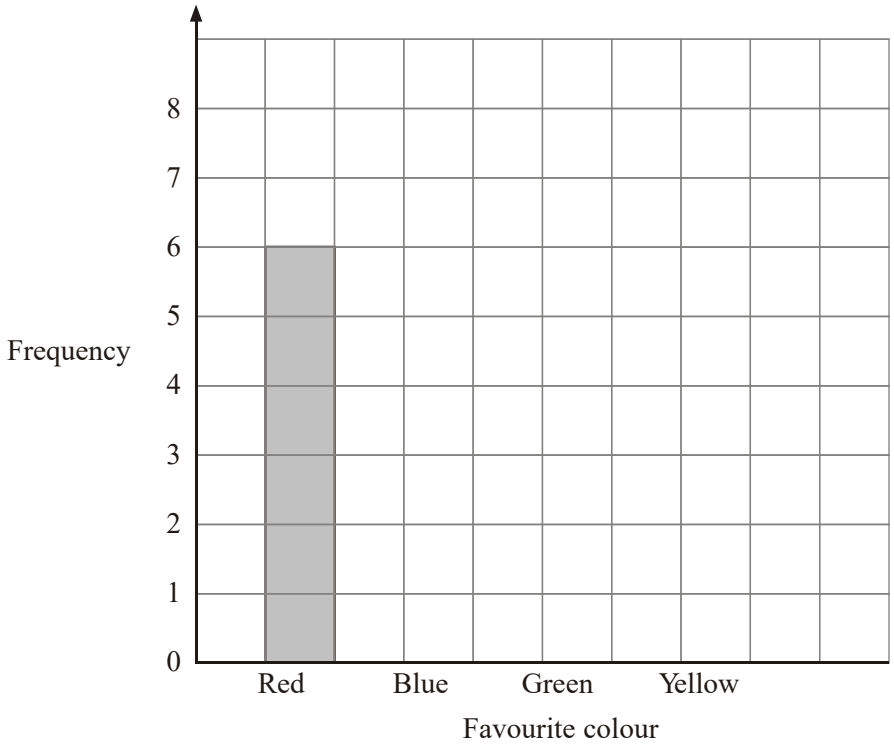
(Total 4 marks)

22. Steve asked his friends to tell him their favourite colour.

Here are his results.

Favourite colour	Tally	Frequency
Red	𝍸 |	6
Blue	𝍸 |||	8
Green	𝍸	5
Yellow	|||	3

(a) Complete the bar chart to show his results.



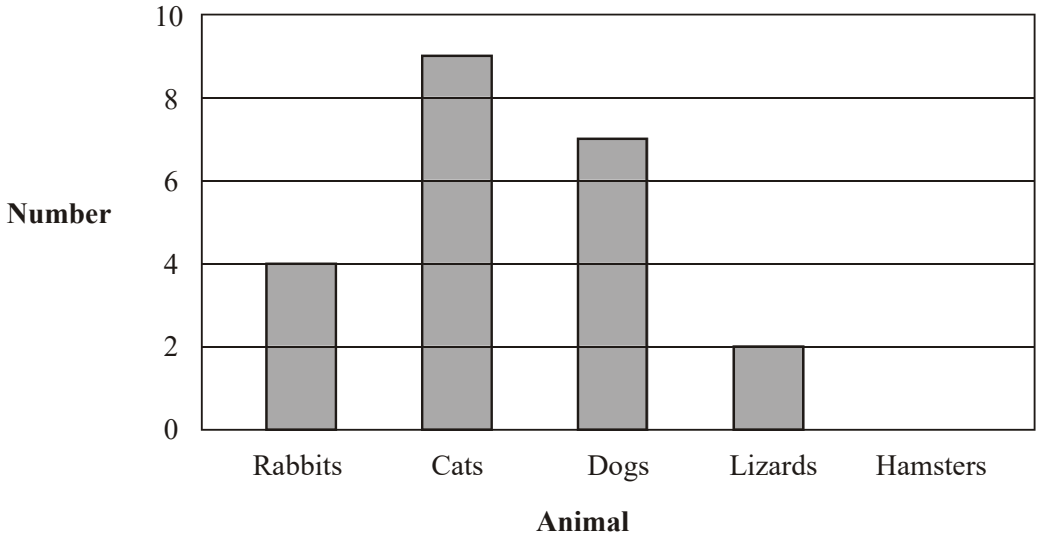
(2)

(b) Which colour did most of his friends say?

.....

(1)
(Total 3 marks)

23. This bar chart gives information about the numbers of rabbits, cats, dogs and lizards taken to a vet on Monday.



(a) Write down the number of rabbits taken to the vet on Monday.

.....

(1)

(b) Write down the number of dogs taken to the vet on Monday.

.....

(1)

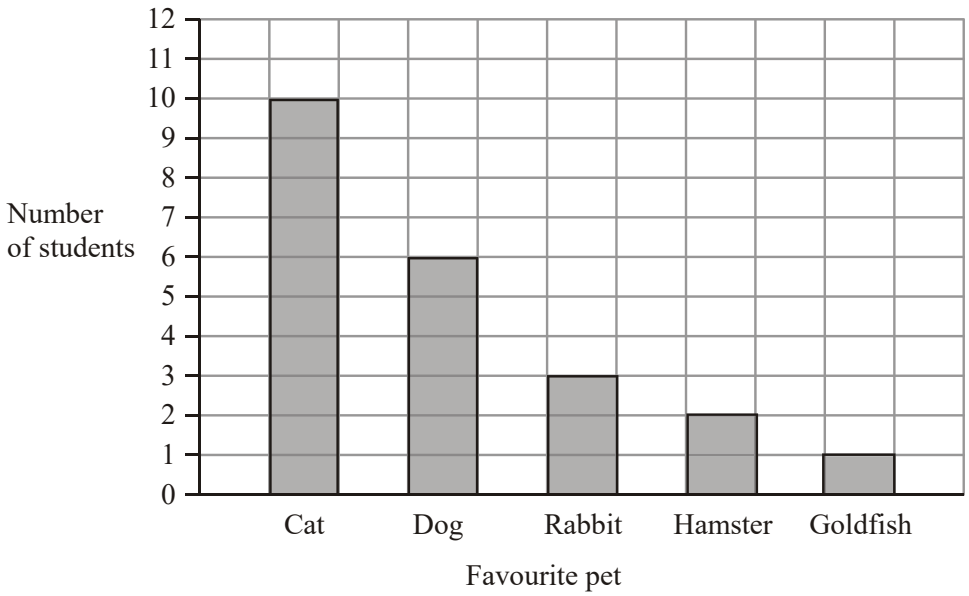
5 hamsters were also taken to the vet on Monday.

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

(1)

(Total 3 marks)

24. Jessica asked some students to tell her their favourite pet.
She used the information to draw this bar chart.



(a) How many students said a rabbit?

.....

(1)

(b) Which pet did most students say?

.....

(1)

(c) Work out the number of students that Jessica asked.

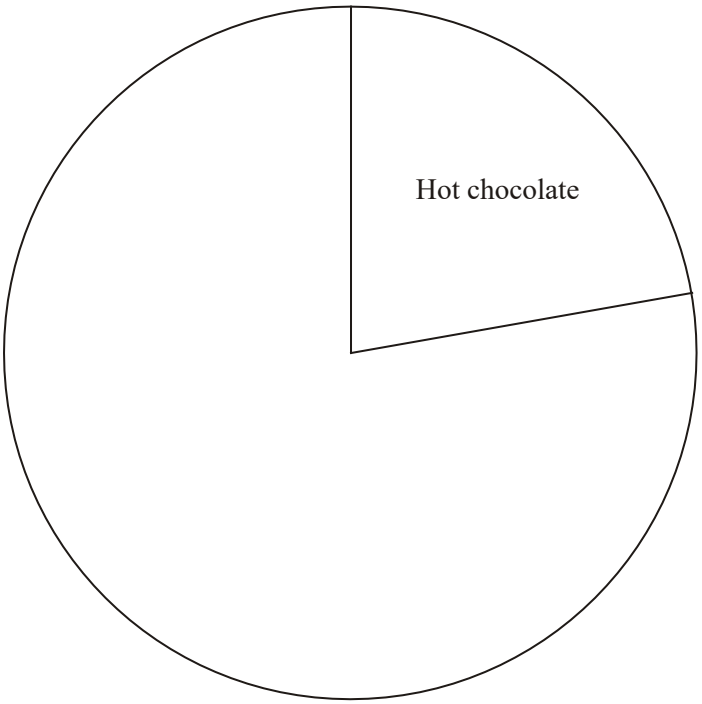
.....

(1)
(Total 3 marks)

25. The table gives information about the drinks sold in a café one day.

Drink	Frequency	Size of angle
Hot chocolate	20	80°
Soup	15	
Coffee	25	
Tea	30	

Complete the pie chart to show this information.

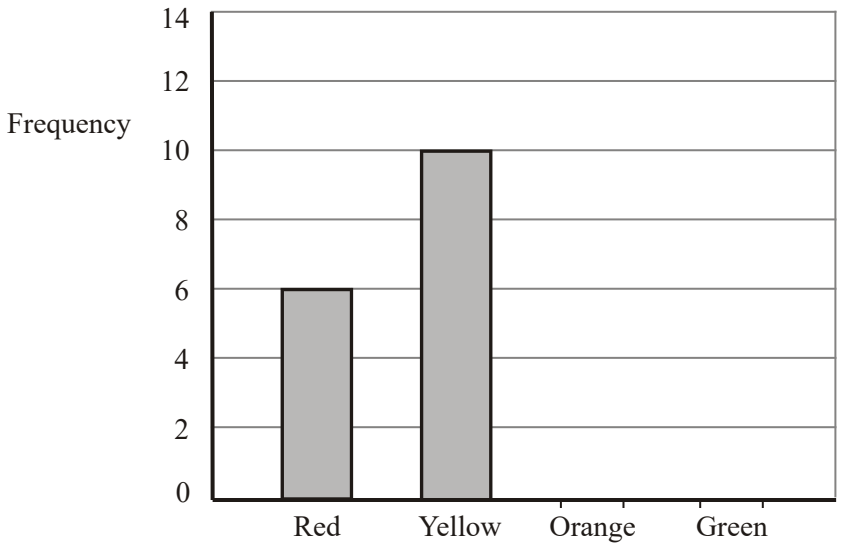


(Total 3 marks)

26. There are only red, yellow, orange and green sweets in a bag.

Peter recorded the colour of each sweet in the bag.

The bar chart shows some information about his results.



8 sweets were orange.
5 sweets were green.

(a) Complete the bar chart.

(2)

(b) Write down the number of red sweets.

.....

(1)

(c) What colour sweet is the mode?

.....

(1)

(d) Work out the total number of sweets in the bag.

.....

(1)
(Total 5 marks)

27. Sarah works in a post office.
She recorded the number of parcels posted on each of 16 days.

Here are her results.

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

(a) Complete the frequency table to show Sarah's results.

Number of parcels	Tally	Frequency
2		
3		
4		
5		
6		

(2)

(b) Write down the mode.

.....

(1)

(c) Work out the range.

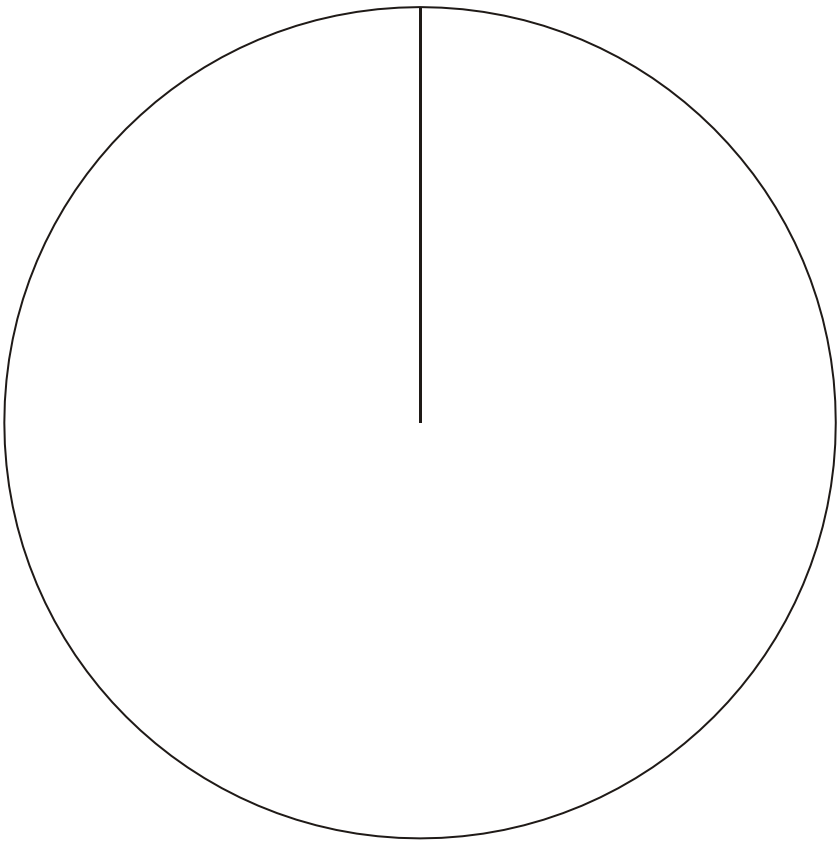
.....

(2)
(Total 5 marks)

28. The table gives information about the numbers of fish in a lake.

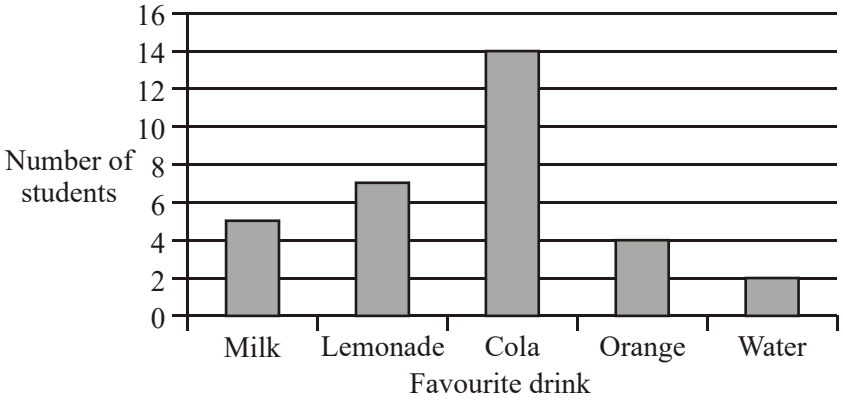
Fish	Frequency	
Perch	10	
Bream	23	
Carp	39	

Draw an accurate pie chart to show this information.



(Total 4 marks)

29. The bar chart shows information about the favourite drink of each student in a class.



(a) Which was the favourite drink of the greatest number of students?

……

(1)

(b) Write down the number of students whose favourite drink was lemonade.

……

(1)

(c) Work out the **total** number of students in the class.

……

(1)
(Total 3 marks)

30. The pictogram shows the number of packets of crisps sold by a shop on each of Monday, Tuesday and Wednesday.

Monday	☺ ☺ ☺ ☺ ☺ ☺ ☾
Tuesday	☺ ☺ ☺ ☺ ☺
Wednesday	☺ ☺
Thursday	
Friday	

Key ☺ = 4 packets

(a) Write down the number of packets sold on Tuesday.

……

(1)

16 packets were sold on Thursday.
6 packets were sold on Friday

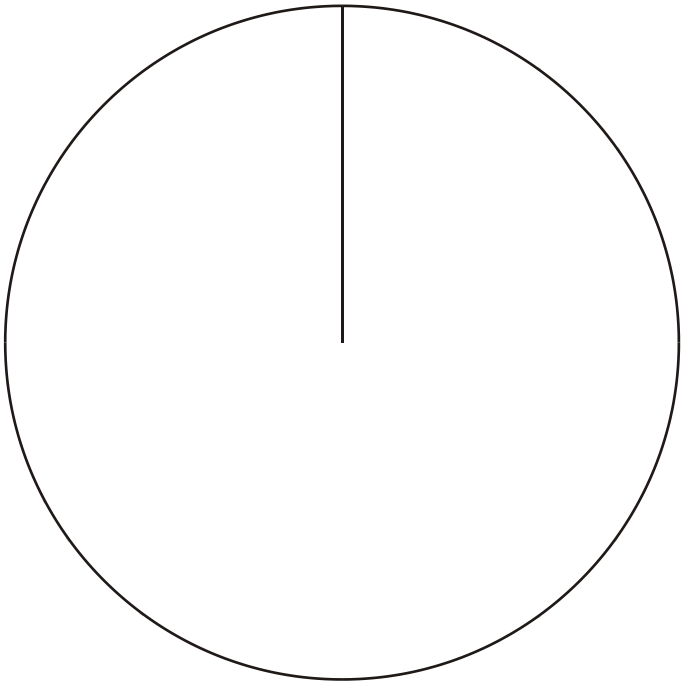
(b) Use this information to complete the pictogram.

(2)
(Total 3 marks)

31. 40 students went on foreign holidays.
Each student went to one of four countries.
The table shows the number of these students who visited each country.

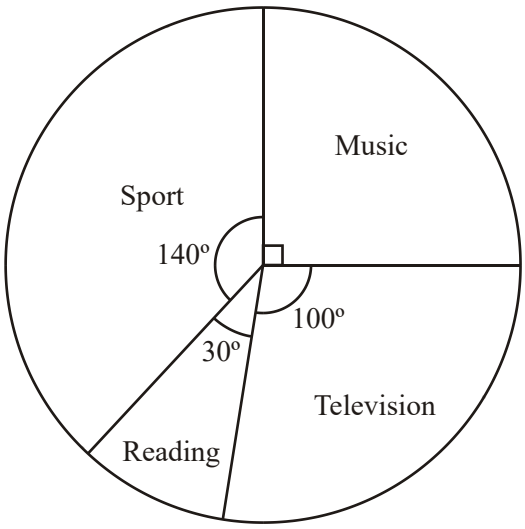
Country	Number of students	
France	16	
Spain	12	
Germany	5	
Italy	7	

Draw an accurate pie chart to show this information.
Use the circle below.



(Total 4 marks)

32. In a survey, some students were asked what their favourite leisure activity was.
Their answers were used to draw this pie chart.



(a) Write down the fraction of the students who answered "Television".
Write your answer in its simplest form.

……

(2)

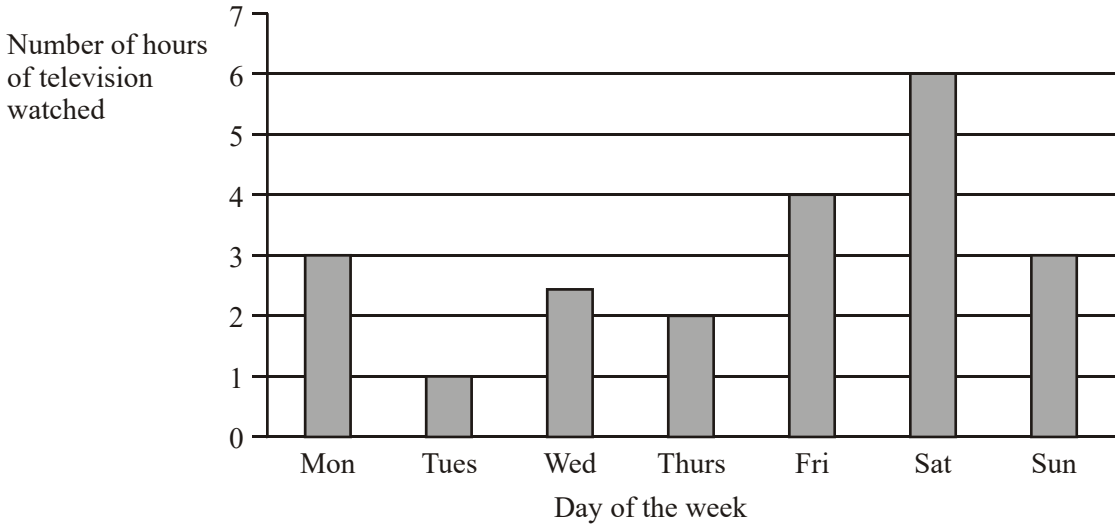
18 students answered "Music".

(b) Work out the number of students who took part in the survey.

……

(2)
(Total 4 marks)

33. Emily wrote down the number of hours of television she watched each day for seven days. The bar chart shows this information.



(a) On which day did Emily watch the **least** number of hours of television?

……

(1)

(b) Write down the number of hours of television she watched on Wednesday.

……

(1)

There were two days on which Emily watched the same number of hours of television.

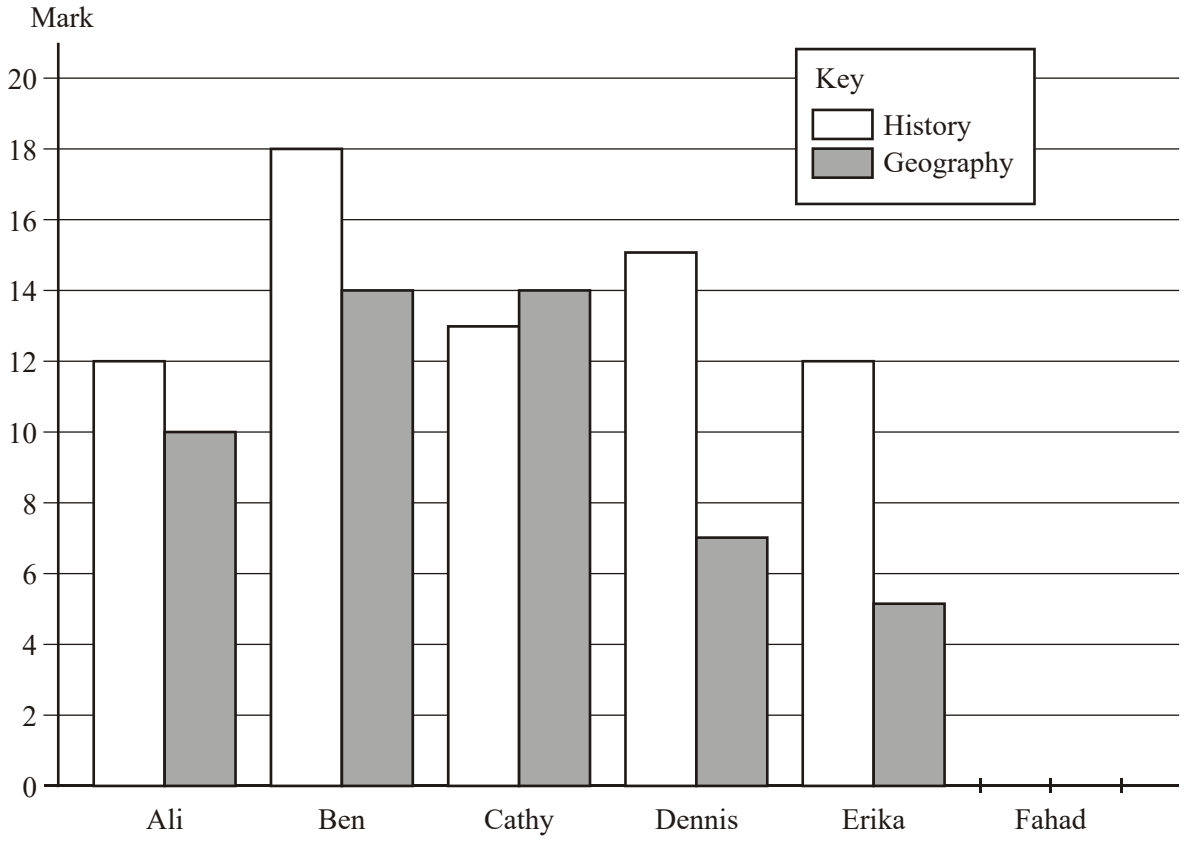
(c) Write down the names of these two days.

…….. and ……..

(1)

(Total 3 marks)

34. Six students each sat a history test and a geography test.
The marks of five of the students, in each of the tests, were used to draw the bar chart.



(a) How many marks did Ali get in his history test?

……

(1)

(b) How many marks did Dennis get in his geography test?

……

(1)

(c) One student got a lower mark in the history test than in the geography test.
Write down the name of this student.

……

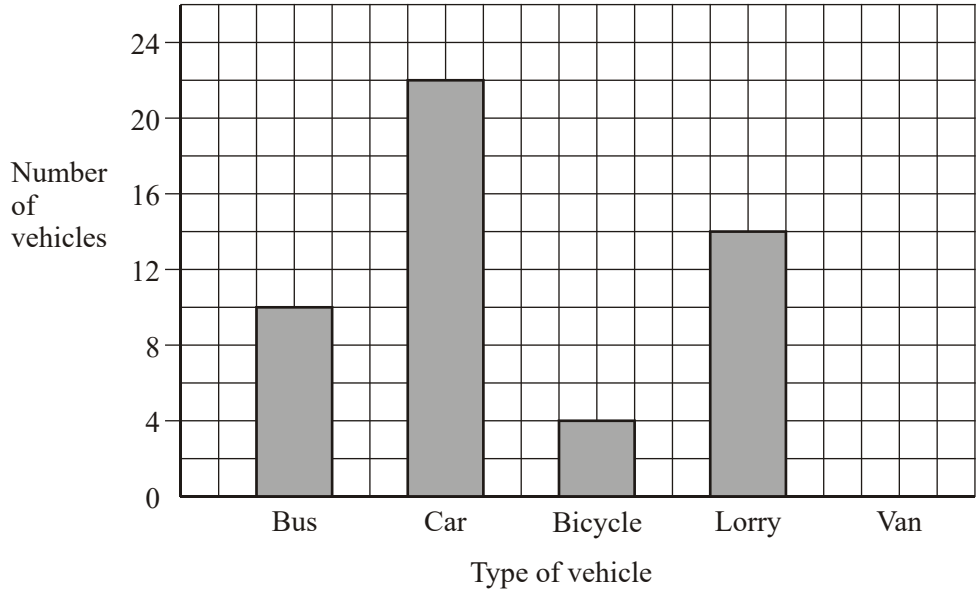
(1)

Fahad got 16 marks in the history test.
She got 11 marks in the geography test.

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

(2)
(Total 5 marks)

35. Robin carried out a traffic survey.
He drew a bar chart to show how many buses, cars, bicycles and lorries he saw.



(a) Write down how many cars he saw.

……

(1)

Robin also saw 8 vans.

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

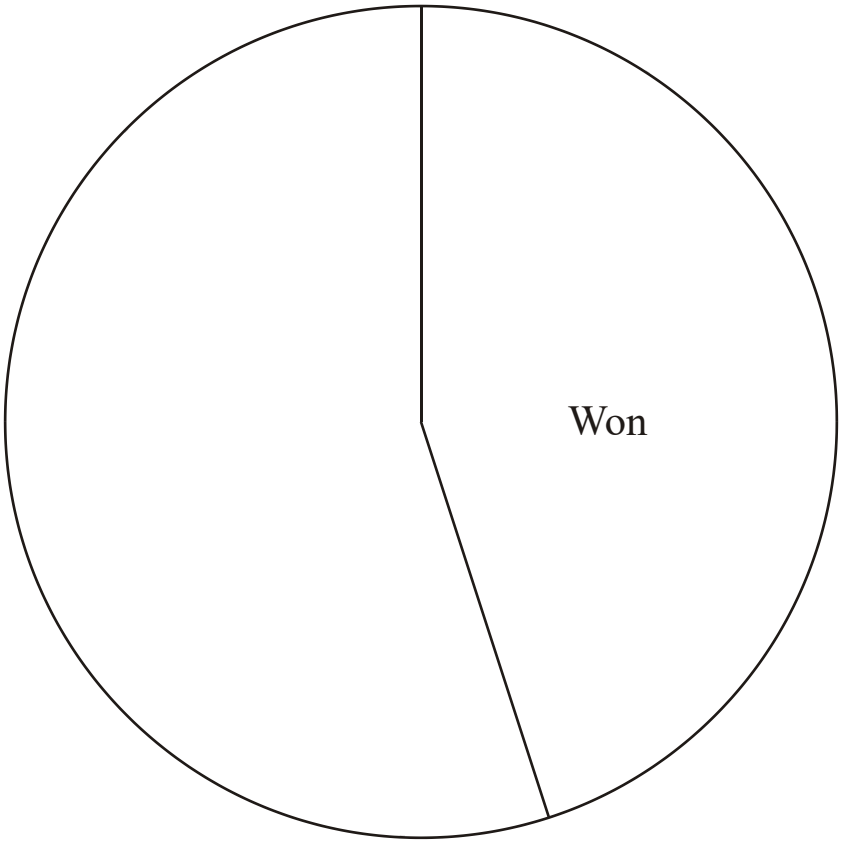
(1)
(Total 2 marks)

36. Mathstown Rovers played 40 football matches.
The table shows information about their results.

Won	Drawn	Lost
18	9	13

The incomplete pie chart shows some of this information.

Complete the pie chart.



(Total 2 marks)

37. Sarah watched a water ride at a theme park.
She counted the number of people in each of 20 boats.
These numbers are shown below.

2 3 1 2 2 3 4 5 4 1

1 2 2 3 2 4 5 4 2 4

(a) Complete the frequency table.

Number of people in a boat	Tally	Frequency
1		
2		
3		
4		
5		

(2)

(b) Write down the mode of the number of people in a boat.

.....

(1)

Emily asked 5 people the number of rides each of them had been on.
The numbers are shown below.

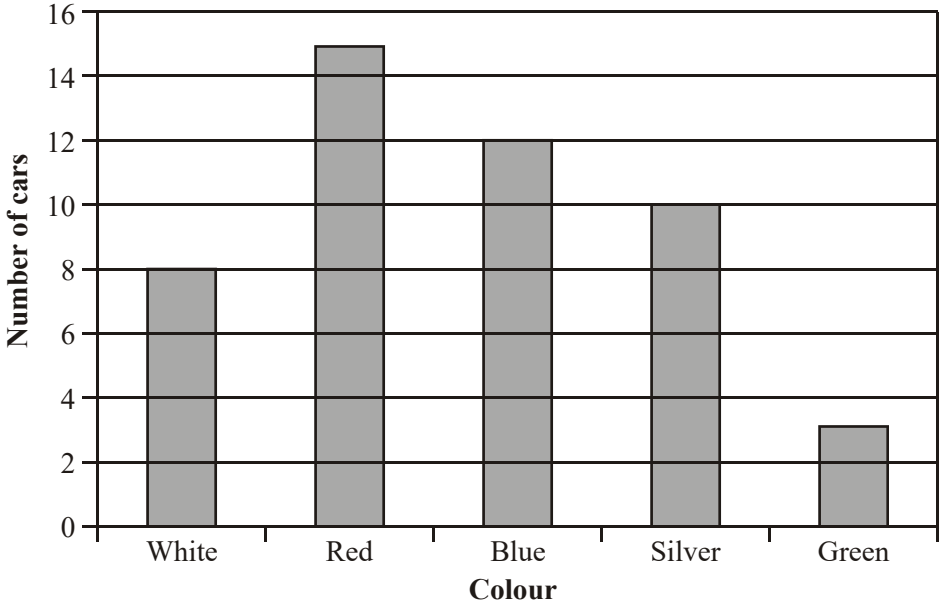
6 8 7 6 10

(c) Work out the mean number of rides per person.

.....

(3)
(Total 6 marks)

38. Lesley wrote down the colour of each car in the school car park.
The bar chart shows this information.



(a) Write down the number of blue cars.

.....

(1)

(b) What colour were most cars?

.....

(1)

(c) Work out the total number of cars.

.....

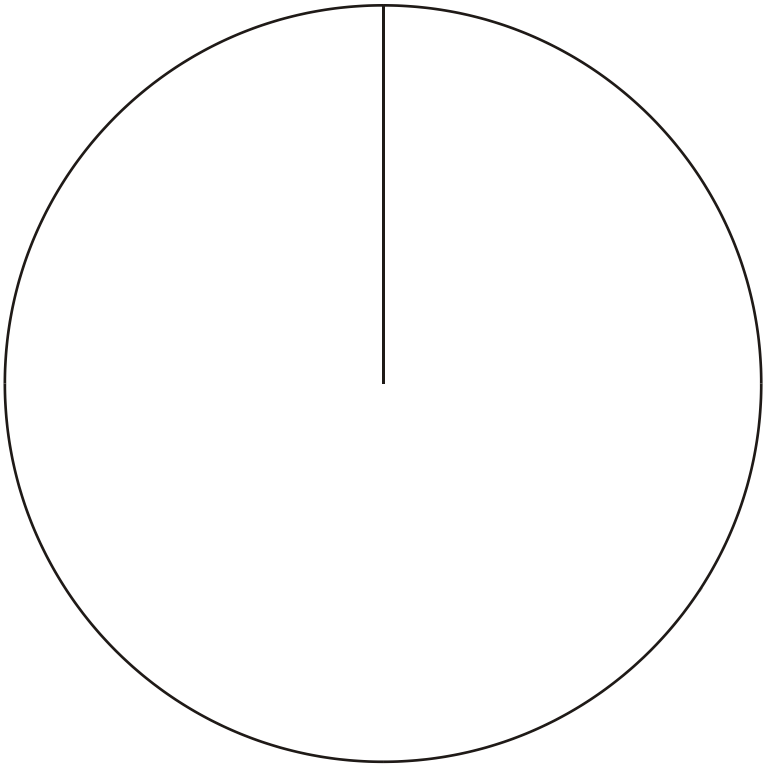
(1)

(Total 3 marks)

39. The table shows information about 40 fruit trees.

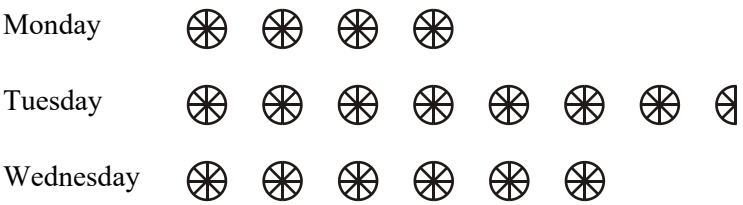
Type of fruit tree	Number of trees
apple	12
plum	5
pear	14
peach	9

Draw an accurate pie chart to show the information in the table.



(Total 4 marks)

40. The pictogram shows the number of hours of sunshine on a Monday, a Tuesday and a Wednesday.



(a) Work out the number of hours of sunshine on Wednesday.

.....

(1)

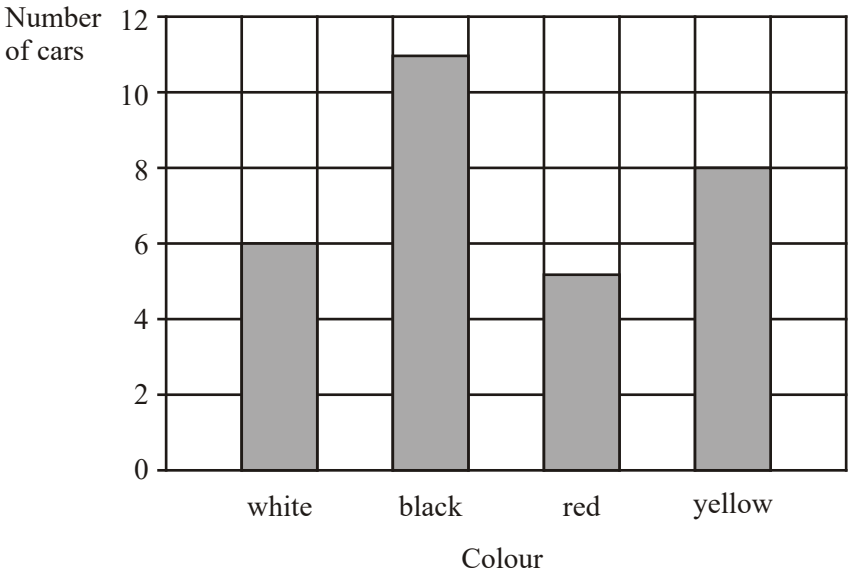
There were 10 hours of sunshine on Thursday.
There were 7 hours of sunshine on Friday.

(b) Use this information to complete the pictogram.

(2)
(Total 3 marks)

41. Jerry recorded the colour of each of the cars he saw one morning.

The bar chart shows this information.



(a) Write down the number of red cars.

.....

(1)

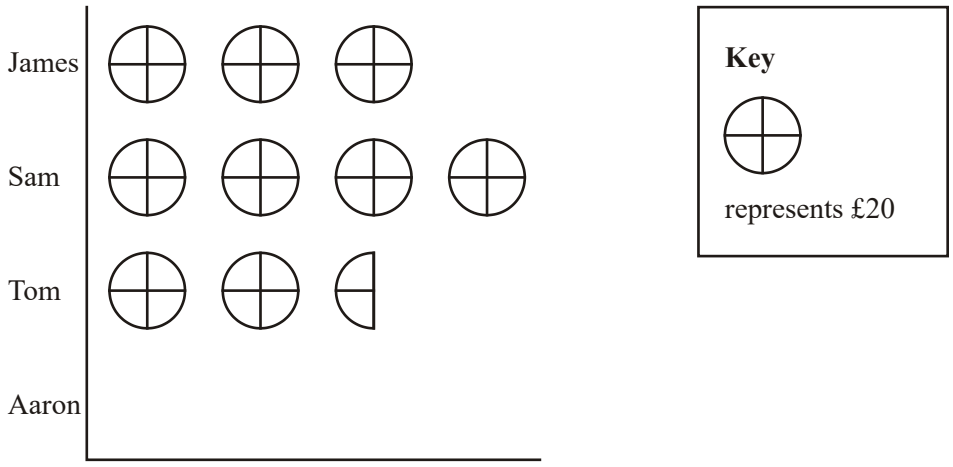
(b) Which was the most popular colour of car?

.....

(1)

(Total 2 marks)

42. Here is a pictogram.
It shows how much money James, Sam and Tom each have.



(a) (i) How much money does Sam have?

£……

(ii) How much money does Tom have?

£……

(2)

Aaron has £25

(b) Show this on the pictogram.

(1)
(Total 3 marks)

43. Amanda collected 20 leaves and wrote down their lengths, in cm.

Here are her results.

5 6 5 2 4 5 8 7 5 4

7 6 4 3 5 7 6 4 8 5

(a) Complete the frequency table to show Amanda's results.

Length in cm	Tally	Frequency
2		
3		
4		
5		
6		
7		
8		

(2)

(b) Write down the modal length.

…….cm

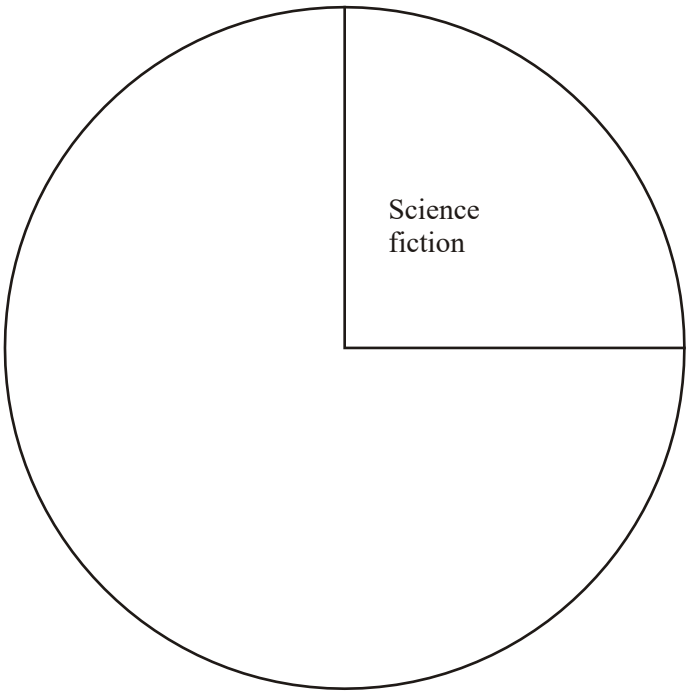
(1)

(Total 3 marks)

44. The table shows information about 60 DVDs.

Type of DVD	Number of DVDs	Angle
Science fiction	15	90°
Comedy	20	
Musical	12	
Thriller	13	

(a) Complete the pie chart.



(3)

Paul takes a DVD at random.

(b) Write down the probability that he takes a Science fiction DVD.

.....

(1)
(Total 4 marks)

45. Mary threw a dice 24 times.

Here are the 24 scores.

3	5	3	4	1	2	4	5
6	2	3	4	3	1	4	3
2	3	5	5	3	4	2	1

(a) Complete the frequency table.

Score	Tally	Frequency
1		
2		
3		
4		
5		
6		

(3)

(b) Write down the mode.

.....

(1)
(Total 4 marks)

46. Jamal carried out a survey of the colours of the cars in a car park.

The tally chart shows his results.

Colour	Tally
Black	𝍸 𝍸 |
Red	𝍸 𝍸 𝍸
Silver	𝍸 ||
White	𝍸 𝍸 |||
Yellow	||||

(a) How many white cars were in the car park?

.....

(1)

15 cars were the same colour.

(b) Which colour is this?

.....

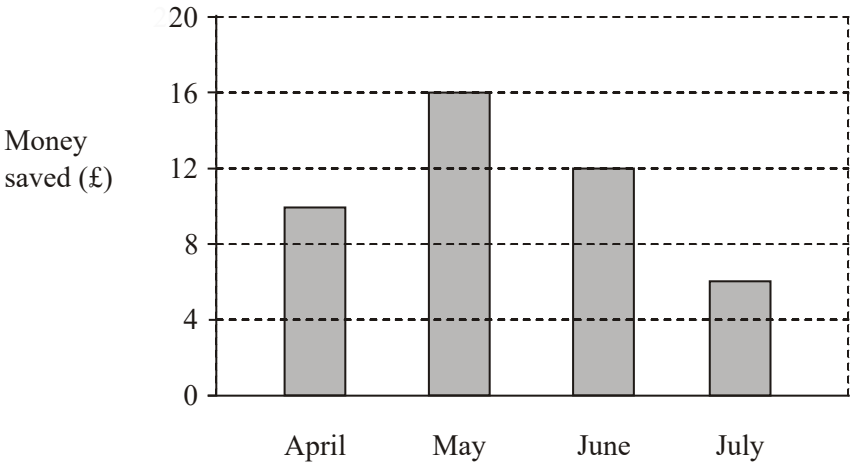
(1)

(c) Work out the **total** number of cars in the car park.

.....

(2)
(Total 4 marks)

47. Last year Hamish saved some money each month from April to July.
The bar chart shows this information.

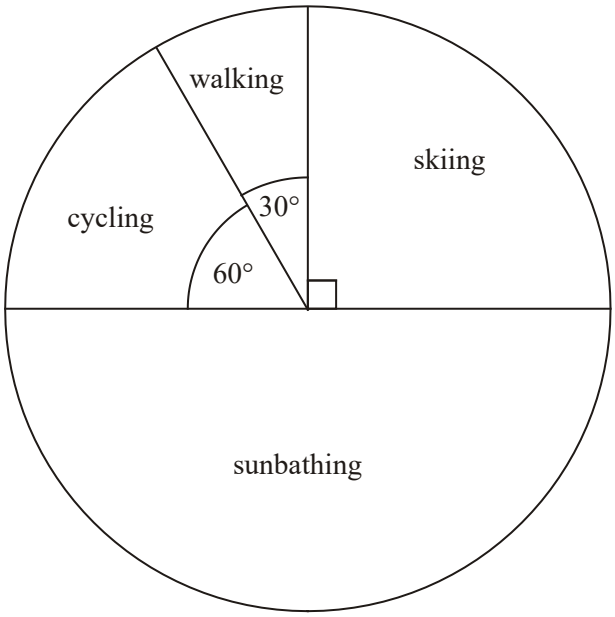


Hamish saved more money in May than in July.
Work out how much more money.

£ .....

(Total 2 marks)

48. Noreen carries out a survey of some students.
The pie chart shows some information about their favourite holiday.



5 students said that walking is their favourite holiday.

(a) (i) How many students said that cycling is their favourite holiday?

.....

(ii) How many students took part in the survey?

.....

(3)

Noreen chooses one of these students at random.

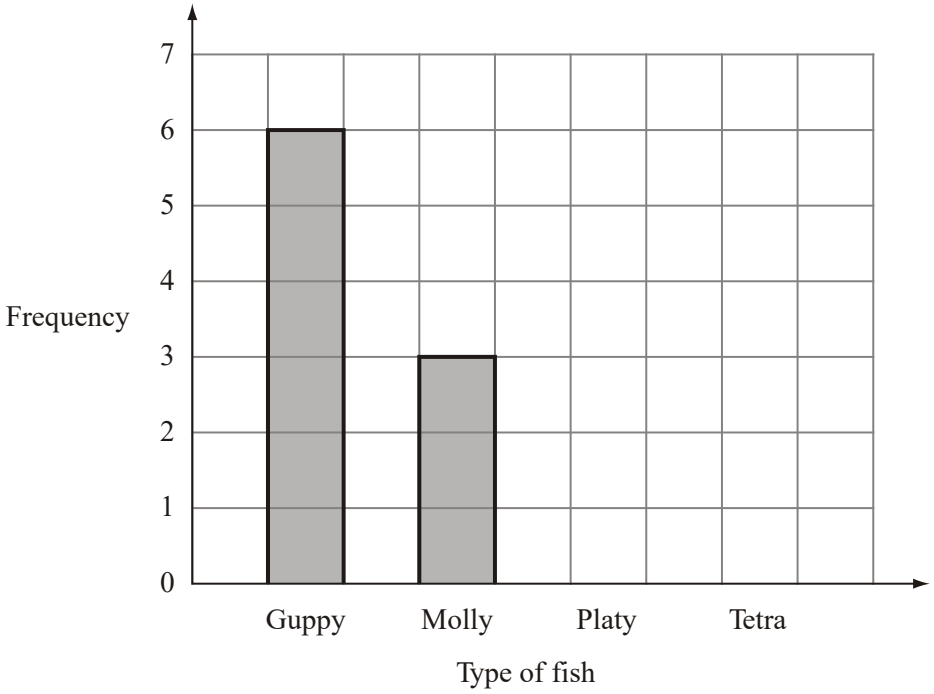
(b) Write down the probability that this student's favourite holiday is cycling.

.....

(1)

(Total 4 marks)

49. Malcolm has some fish in a tank.
He has Guppys, Mollys, Platys and Tetras.
This bar chart shows some information about the Guppys and Mollys.



Malcolm also has 5 Platys and 7 Tetras in his tank.

(a) Complete the bar chart.

(2)

(b) Which type of fish is the mode?

.....

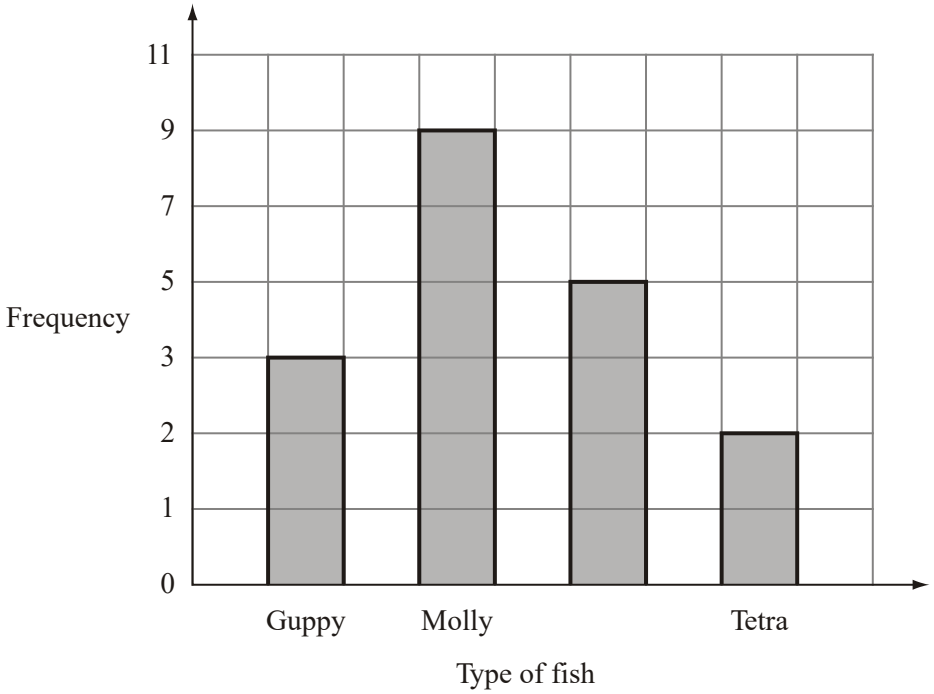
(1)

(c) Work out the total number of fish in the tank.

.....

(1)

Kate also has some fish in another tank.
This bar chart shows some information about her fish.



(d) Write down **two** things that are wrong with this bar chart.

1 .....

2 .....

(2)
(Total 6 marks)

50. Tariq measured the lengths, in cm, of 18 books.

Here are his results.

14	13	16	15	14	14	17	13	14
16	14	15	15	17	13	15	14	16

(a) Complete the table to show Tariq's results.

Length (cm)	Tally	Frequency
13		
14		
15		
16		
17		

(2)

(b) Write down the number of books with a length of 16 cm.

.....

(1)

(c) Write down the length that is the mode.

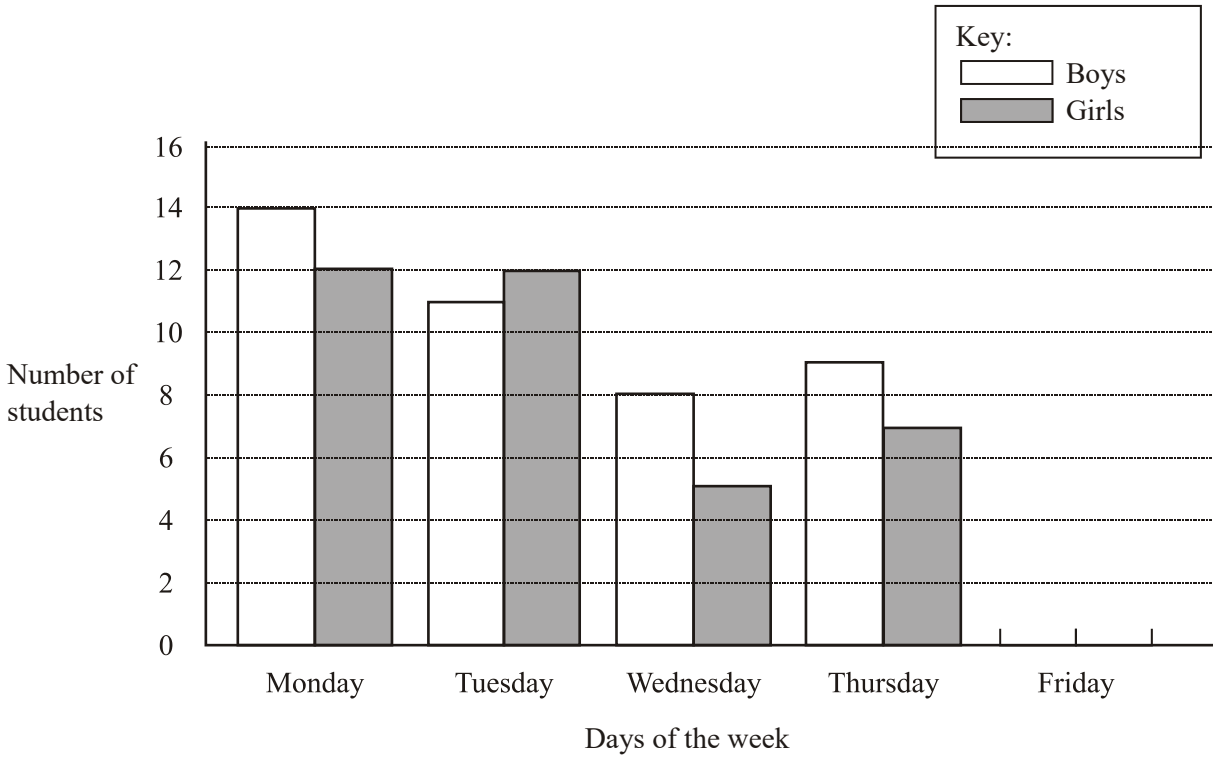
..... cm

(1)

(Total 4 marks)

51. Mr White recorded the number of students absent one week.

The dual bar chart shows this information for the first four days.



(a) How many boys were absent on Monday?

.....

(1)

(b) How many girls were absent on Wednesday?

.....

(1)

On Friday, 9 boys were absent and 6 girls were absent.

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

(2)

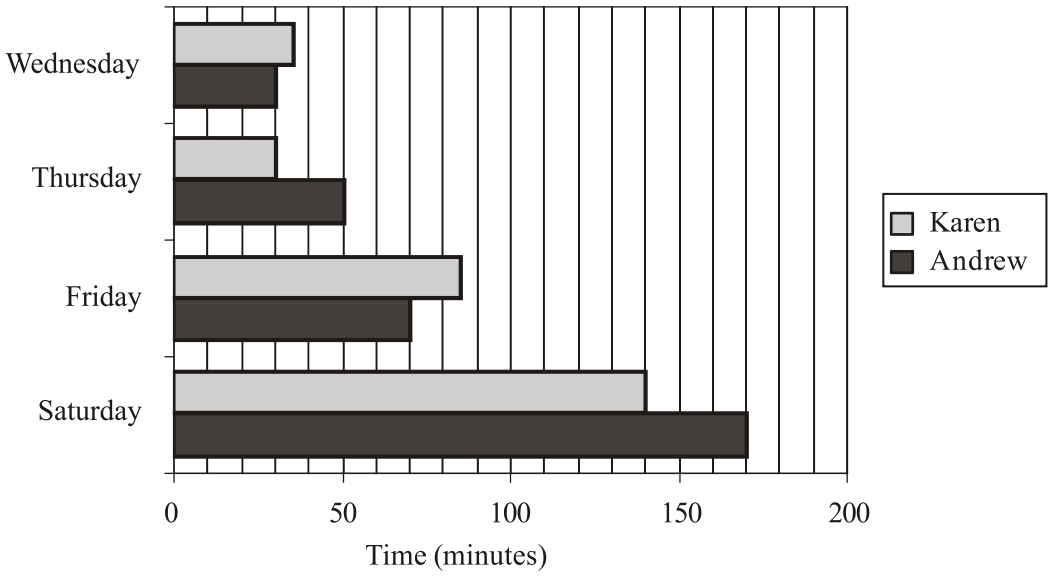
On only one day more girls were absent than boys.

(d) Which day?

.....

(1)
(Total 5 marks)

52. The bar chart shows information about the amount of time, in minutes, that Andrew and Karen spent watching television on four days last week.



Karen spent more time watching television than Andrew on two of these four days.

(a) Write down these two days.

.....

and .....

(2)

(b) Work out the total amount of time Andrew spent watching television on these four days.

..... minutes

(2)

(Total 4 marks)

53. Leanne asked each of her friends which one country they would most like to visit.

Here are her results.

USA	France	Italy	USA	France
Australia	USA	Spain	France	Italy
Italy	USA	France	Italy	USA
USA	Spain	USA	Spain	Italy

(a) Complete the frequency table.

Country	**Tally**	**Frequency**
Australia		
France		
Italy		
Spain		
USA		

(2)

(b) How many friends did Leanne ask?

.....

(1)

(c) Write down the mode.

.....

(1)

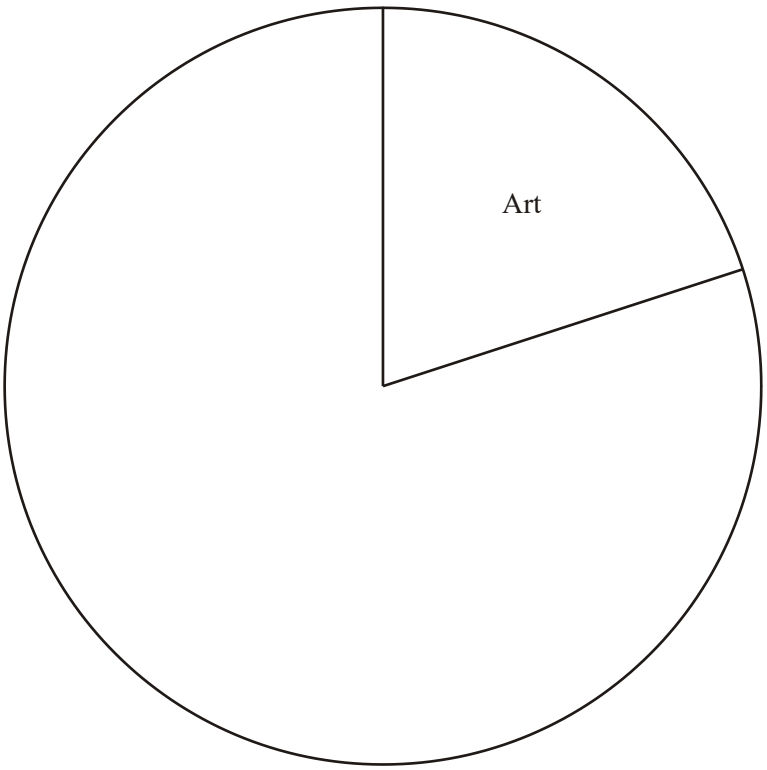
(Total 4 marks)

54. 60 students were asked to choose one of four subjects.

The table gives information about their choices.

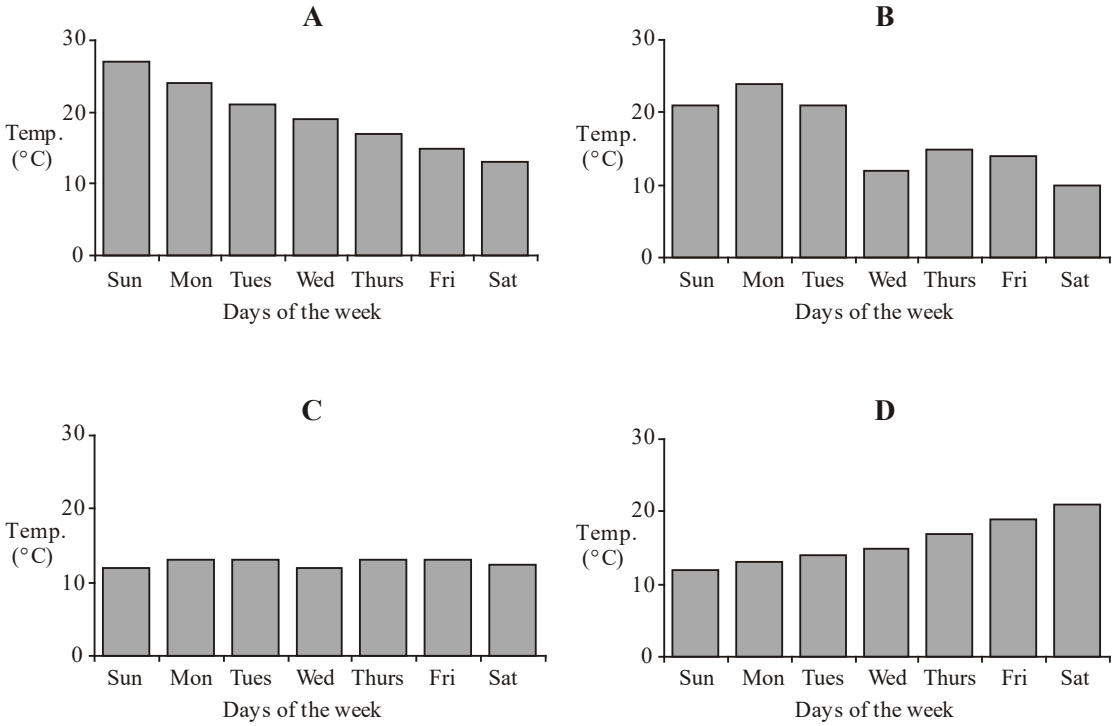
Subject	Number of students	Angle
Art	12	72°
French	10	
History	20	
Music	18	

Complete the pie chart to show this information.



(Total 3 marks)

55. Here are four bar charts showing information about the temperatures at midday in four different cities last week.

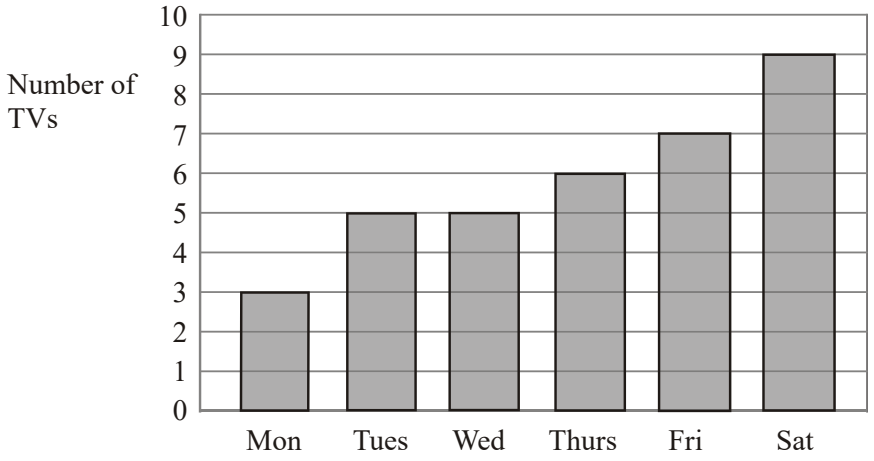


Put a cross in the box underneath the letter of the bar chart which best matches the sentences. One has already been done for you.

		A	B	C	D
(i)	Each temperature at midday was higher than the day before.	☒	☒	☒	☒
(ii)	Each temperature at midday was about the same.	☒	☒	☒	☒
(iii)	Each temperature at midday was lower than the day before.	☒	☒	☒	☒

(Total 2 marks)

56. The bar chart shows the number of TVs sold by a shop six days last week.



(a) How many TVs were sold on Friday?

.....

(1)

(b) On which day was the **least** number of TVs sold?

.....

(1)

(c) On which two days were the same number of TVs sold?

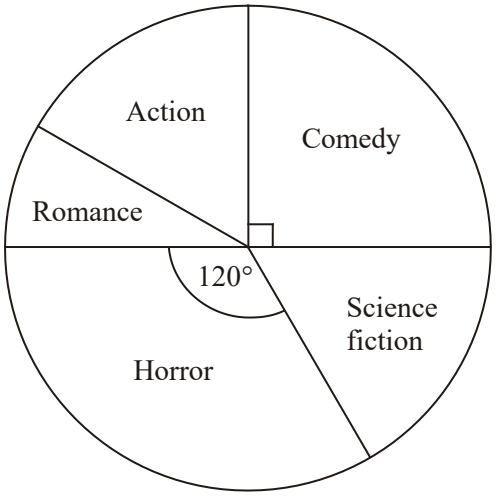
..... and .....

(1)

(Total 3 marks)

57. Colin carried out a survey.
He asked some students in Year 10 which type of film they liked best.

He used the results to draw this pie chart.



(a) What fraction of the students said "Comedy"?

.....

(1)

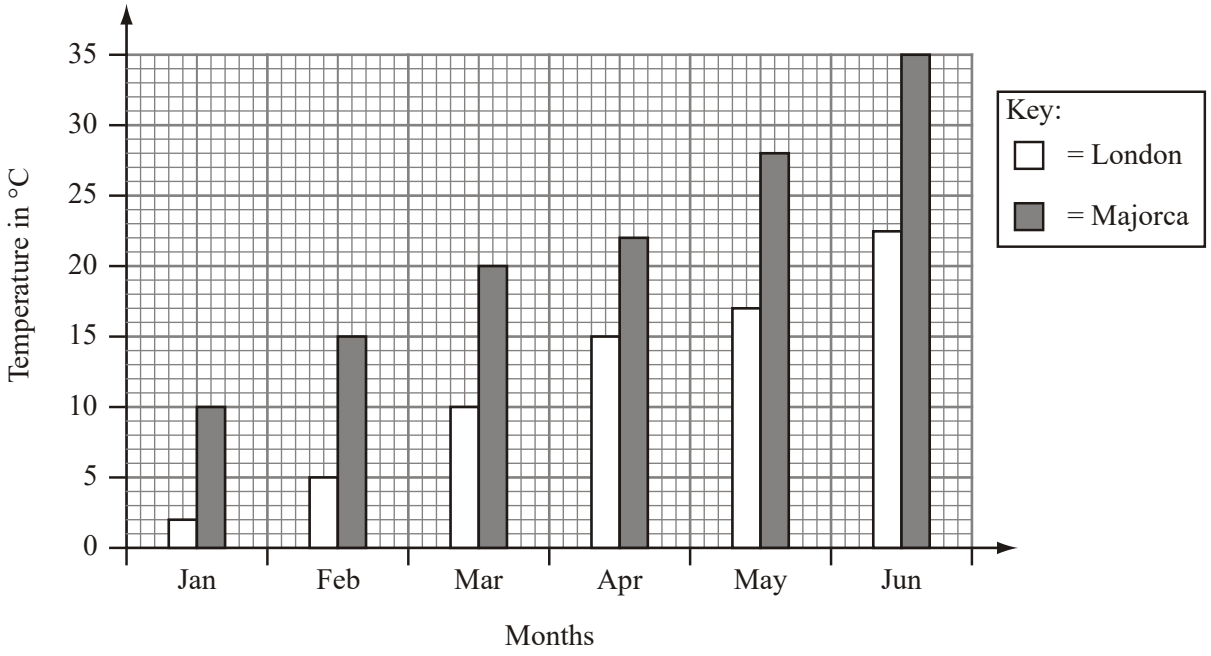
20 students said "Horror".

(b) Work out the total number of students Colin asked.

.....

(2)
(Total 3 marks)

58. The dual bar chart shows the average monthly temperatures in London and Majorca from January to June one year.



(a) Write down the highest average monthly temperature in Majorca.

..... °C

(1)

(b) Using this dual bar chart, write down **two** facts about the average monthly temperatures in London and Majorca.

1 .....

2 .....

(2)

(Total 3 marks)

59. Leah wants to find out which newspapers her friends read.

Design a data collection sheet that she can use to carry out a survey.

(Total 3 marks)

01. (a) (i) 40 2

B1 cao

(ii) 50

B1 cao

(b) 5 complete symbols 1

B1 cao

(c)  and o e inc 1

B1

[4]

02. (a) Missing horiz label 1 (and 6) missing on vertical scale 2

B1

B1

(b) Correct graph 2

B1 for bar up to 4 for yellow

B1 for bar up to 2 for green

(c) Blue 1

B1 cao

(d) 14 1

3 + 5 + 4 + 2

B1 ft from (b)

(e) $\frac{3}{14}$ 1

B1 ft on '14'

[7]

03. Angles drawn, labelled 3

$\sum f = 90$

M1 for 1 person = 4°or one angle correct in table or pie chart
A1 any 2 correctly drawn angles in pie chart
A1 fully correct chart labelled

[3]

04. Angles drawn, labelled 3

$\sum f = 90$
(88), 144, 32, 96

M1 for 1 person = 4° or one angle correct in table or pie chart
A1 any 2 angles correctly drawn in pie chart
A1 fully correct chart labelled

[3]

05. 80°
116°
104°
60° 4

200 ÷ 900 × 360 =

M1 for evidence of correct method (e.g. one angle correct)
B2 all angles correctly drawn ±2°
(B1 for 2 angles correctly drawn or all angles correctly calculated)
B1 for labels (not just angles) dep on at least one sector of 4 correct.

[4]

06. (a) (i) 30 2

B1 for 30

(ii) 25

B1 for 25

(b) (i) 4 shapes 2

B1 for drawing 4 shapes

(ii) 1½ shapes

B1 for drawing 1½ shapes

[4]

07. (a) $\frac{3}{4}$ 2

M1 $\frac{80-20}{80}$ *or* $\frac{60}{80}$ *or 0.75 (oe)*
A1 cao Do not accept equivalents

(b) 15 1

B1 cao

(c) Iron and Cook set 1

B1 for both Accept mixer and fryer

(d) Microwave 1

B1 cao

(e) Bar chart 2

B1 one column (mixer): 70, 90
B1 second column (fryer): 70, 85
[SC: B1 columns correct but reversed]

[7]

08. 4

	80
10	40
15	60

Each student 4º

B1 for 80 (± 2°)
B1 for measuring 40º and 60º (± 2°)
B1ft for 10
B1 ft for 15
(SC B1for 360 – 90 or 180 – 45 or 4 seen, if B0 awarded)

[4]

09. (a) 3

Plain	𝍸 111	8
Chicken	111	3
Bovril	𝍸	5
S & Vin	1111	4

M1 for attempt to tally
A1 for 1 frequency correct or all tallies correct
A1 for all frequencies correct (accept for /20)

(b) 4 1

B1 ft

(c) Plain or 8 1

B1 ft

[5]

10. Angles drawn, labelled 4

360° ÷ 18 (= 20)
Sector angles: G = 60; S = 80; B = 220;
Correct sectors labelled correctly
Use angle measurer

B4 for fully correct and labelled pie chart
(B3 for all angles correct or for a labelled pie chart with 2 correct angles)
(B2 for labelled pie chart with 1 correct angle drawn)
(B1 for 360° ÷ 18 or 20 seen or implied)

[4]

11. $0 \times 9 + 1 \times 8 + 2 \times 12 + 3 \times 5 = 47$ 2

M1 fx (could be implied from least 2 correct)
A1 cao
SC: B1 for 56

[2]

12. (a) 12 1

B1 cao

(b) 8 – 5
3 2

M1 for 5 seen or 4 – 1
A1 cao

(c) 5 circles
$3\frac{1}{2}$ circles 2

B1 cao
B1 cao

[5]

13. (a) 2 1

B1 cao

(b) Wednesday 1

B1 cao (ignore spellings, accept abbreviations)

(c) (i) Robin 4 + 5 = 9 1

B1 cao

(ii) Helen 3 + 8 = 11
Helen watched 2 hours more 2

B1 for sight if 3 and 8 or 11
B1 for Helen

[5]

14. (a) 1, 1, 4, 6, 3, 3, 2 2

B2 for all frequencies correct
(B1 for 5 or 6 frequencies correct or all tallies correct)

(b) 5 1

B1 ft from (a)

(c) 6 1

B1

[4]

15. (a) 150 1

B1 for 150 ± 5

(b) It might have rained or they may have run out of ice-cream 1

B1 for valid reason

[2]

16.

Cat	𝍸	8
Dog	𝍸 |	6
Fish	||	2
Hamster	||||	4

= 8, 6, 2, 4 3

M1 for attempt to tally or one frequency correct in either column
A1 for 1 frequency correct or all tallies correct in correct column
A1 for all frequencies correct (accept if /20)

[3]

17. (a) Height of bars 12, 8, 6
lines drawn between points

Bars drawn 2

B2 for 3 bars correctly drawn
(B1 for 2 bars correct)

(b) July and August 1

B1 oe

(c) 24 – 4
20 1
B1 (Accept '4 to 24' oe)

(d) The temperatures are rising
Temp's rising oe 1
B1 for reason

[5]

18. (a) 4, 7 drawn 2
B2 for car height 4 and bus height 7,
(B1 for one correct)

(b) 6 1
B1 cao

(c) Walk 1
B1

(d) 27 1
B1 cao

[5]

19. (a) Paul 1
B1 cao

(b) 36 ÷ 2 oe
= 18 1
B1 cao

(c) 60/360 = 1/6 2
M1 60/360 oe
A1 cao

[4]

20. Different makes of car 3
Tally
Frequency

Make of car
Tally
Frequency

B1 for make of car or list of at least 3 different makes
B1 for tally or tally marks
B1 for frequency or totals

[3]

21. 15/120×360 = 45 Plain
40/120×360 = 120 Cheese & Onion
55/120×360 = 165 Salt & Vinegar
10/120 × 360 = 30 Beef

45°, 120°, 165°, 30° 4

M1 evidence of method for at least one angle (could be implied by one correct angle of four on pie chart or in the table)

A2 All four angles drawn ±2° tolerance, any order

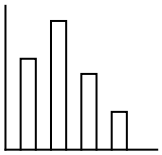
(A1 at least 2 angles correctly drawn ±2°, or all 4 angles in the table)

B1 (dep on at least 1 angle drawn correctly, and exactly 4 sectors) for labels (flavour or frequency; initials will do)

NB: Ignore the table if the pie chart provides the marks.

[4]

22. (a)



Bars drawn at heights 8, 5 and 3 2

B2 for 3 bars drawn correctly
(B1 for one bar drawn correctly or for 3 bars with correct heights)

(b) Blue 1

B1 ft for "blue" (ft from table or their bar chart)

[3]

23. (a) 4 1

B1 cao

(b) 7 1

B1 cao

(c) Bar at 5 1

B1 cao. Bars may be narrow, but cannot be so narrow as to be a "bar line".

[3]

24. (a) 3 1

B1 cao

(b) Cat 1

B1 cao

(c) 22 1

B1 cao

[3]

25. 360° ÷ 90 = 4
Sector angles: (H = 80); S = 60; C = 100; T = 120

Angles drawn, labelled 3

M1 for 360 ÷ 90 or 80 ÷ 20 or 4 seen or one angle correct in pie chart (±2°) or table
A1 for any two angles drawn in pie chart
A1 for fully correct and labelled pie chart

[3]

26. (a) Bars at 8 and 5 2

B1 for bar of height 8 (above orange)
B1 for bar of height 5 (above green)

(b) 6 1

B1 for 6 cao

(c) yellow 1

B1 ft for yellow or ft from their diagram

(d) 6 + 10 + 8 + 5
29 1

B1 correct answer or ft by adding the heights of the columns on the graph

[5]

27. (a) 7, 4, 2, 1, 2 2

M1 for at least one correct frequency or tally
A1 for 7, 4, 2, 1, 2 cao
(B2 for correct frequencies without the use of tallies)

(b) 2 1

B1 for 2 or ft values in table
NB: B0 if the 7 is given with the 2

(c) 6 – 2 = 4 2

M1 for identifying 6 and 2, eg 6-2, as long as 6 and 2 are not identified with any incorrect operation
A1 cao

[5]

28. 10/72 × 360 = 50 perch
23/72 × 360 = 115 bream
39/72 × 360 = 195 carp
50, 115, 195 4

M1 for evidence of method for at least one angle (could be implied by one correct angle on pie chart or in the table)
A2 all three angles drawn ±2° tolerance, any order
(A1 at least one angle correctly drawn ±2°, or all three angles in the table)
B1 names of fish as labels (dep on at least one angle drawn correctly, and exactly three sectors; initials will do)
NB: *Ignore table if pie chart provides marks*

[4]

29. (a) Cola 1

B1 (or 14)

(b) 7 1

B1

(c) 32 1

B1 ft integer only

[3]

30. (a) 20 1

B1

(b) 4 faces
1½ faces 2

B1

B1

[3]

31. $\frac{360}{40}$ (=9)

sector angle: $f = 144°$, $s = 108°$ $g = 45°$

$I = 63°$

Correct sectors labelled correctly 4

B1 for 360° ÷ 40 or implied seen (or for 1 correct sector drawn)
B2 if 4 sectors correct within guidelines
(B1 if 2 sectors correct within guidelines)
B1 (dep on B1 gained) if labelled correctly

[4]

32. (a) $\frac{5}{18}$ 2

$\frac{100}{360}$

M1 for $\frac{100}{360}$ *oe fraction*

A1

(b) 72 2

$\frac{1}{4}$ = 18pupils

Total = 18 × 4

M1 for ¼ oe = 18 pupils OR 18 × 4

A1

[4]

33. (a) Tuesday 1

B1

(b) 2 ½ hours 1

B1 accept 2.5 ± 0.1 oe

(c) Mon & Sun 1

B1

[3]

34. (a) 12 1

B1

(b) 7 1

B1

(c) Cathy 1

B1

(d) Bars to 16 and 11 2

B2 (B1 for each subject)

S.C: both heights correct and either incorrectly shaded or incorrect order award B1 B0

[5]

35. (a) 22 1

B1

(b) bar 1

B1 for bar 4 squares high

[2]

36. Pie chart 2

81°, 117°

B2 for correct pie chart (within guidelines) with correct labels
[B1 for correct pie chart (within guidelines) with no/incorrect labels OR for 3 correct angles quoted]

[2]

37. (a) 3, 7, 3, 5, 2 2

Complete tally and frequency

B2 for all 5 frequencies correct
(B1 for any 3 correct)
SC B1 B0 for tallies only, all tallies correct

(b) 2 1

B1 f.t. (dep on B1)

(c) 7.4 3

6 + 8 + 7 + 6 + 10
"37" ÷ 5

M1 for 6 + 8 + 7 + 6 + 10 or 37 seen
M1 dep for "37" ÷ 5
A1 cao

[6]

38. (a) 12 1

B1

(b) **Red** 1

B1

(c) 48 1

B1

[3]

39. pie chart 4

360 ÷ 40 = 9

plum = 5 × 9 = 45
peach = 9 × 9 = 81
apple = 12 × 9 = 108
pear = 14 × 9 = 126

B4 f or fully correct, correctly labelled pie chart
(B3 for 4 correct angles, not labelled, or labelled with degrees or numbers
***or** for 2 correct angles and 4 correct labels)*
(B2 for 2 correct angles, not labelled, or labelled with degrees or numbers)
(B1 for 1 correct angle or 360 ÷ 40
or 1 angle, or more, correctly calculated.)

[4]

40. (a) 12 1

B1

(b) 5 suns
3½ suns 2

B1
B1

[3]

41. (a) 5 1

B1

(b) black 1

B1 (accept 11)

[2]

42. (a) (i) 80 2

B1

(ii) 50

B1

(b) ⊕ ◿ 1

B1

[3]

43. (a) 1, 1, 4, 6, 3, 3, 2 2

B2 for all frequencies correct
(B1 for 5 or 6 frequencies correct or all tallies correct)

(b) 5 1

B1 f.t. from (a)

[3]

44. (a) Overlay of pie chart; 3
angles of 120°,72°, 78°

B3 for a correct fully labelled pie chart
(B2 for 4 sectors labelled, 1-2 drawn inaccurately with labels, OR 4 sectors drawn accurately, no labels.)
(B1 for 4 sectors, 1-2 drawn inaccurately, no labels OR for correctly completed table if no other marks awarded)
Give bod unless sectors are clearly outside the tramlines given on the overlay. Lines need not be ruled, but must be within tolerance.
Note: in using the overlay for "musical" the two outer tramlines may be used to give a maximum of B2.

(b) $\frac{1}{4}$ 1

B1 for $\frac{90}{360}$ *or better*
Accept as a fraction, an equivalent fraction, as a decimal (0.25) or a percentage (25%).
Anything else (eg ratio, in words, etc) award 0 marks.

[4]

45. (a) 3

Score	Tally	Freq.
1	Complete	3
2	with	4
3	tally	7
4	marks	5
5		4
6		1

M1 for an attempt at tallying or for finding one correct frequency value.

A1 for at least 3 correct frequencies or all tallies correct.

A1 for all frequencies correct.

NB: Accept every day, every month as an alternate to once a day, once a month etc. Ignore tallies and mark frequencies if this maximises mark; accept tallies & frequencies reversed.

(b) 3 1

B1 ft

[4]

46. (a) 13 1

B1

(b) red 1

B1 (accept R)

(c) 50 2

M1 Attempt at adding or 49 ≤ answer ≤ 51
A1 cao

[4]

47. 16 – 6
= 10 2

M1 for "16" – "6" ... an understanding of the scale for one bar and 'difference'
A1 cao

[2]

48. (a) (i) 10 3

B1 cao

(ii) $30 \div 5 = 6°$ per student
$360 \div 6$
60

M1 for $360 \div 6$ oe or $(5 + \text{“}10\text{”}) \times 4$
or 5×12 or $(360 \div 30) \times 5$
or $5 + 10 + 15 + 30$ or any valid method
A1 cao

(b) $\frac{60}{360}$ 1
$\frac{1}{6}$ oe

B1 for $\frac{1}{6}$ oe (ft from $\frac{\text{"}(i)\text{"}}{\text{"}(ii)\text{"}}$ if answer $\leq \frac{1}{4}$

[4]

49. (a) Completed bar chart 2

B1 for Platy bar 5 high
B1 for Tetra bar 7 high

(b) Tetra 1

B1 (accept 7)

(c) 21 1

B1

(d) Incorrect numbering on the frequency axis 2
4 6 8 10 missing
Label missing for one type of fish

B2 for two correct reasons
eg numbers wrong, name missing, no title
(B1 for one correct reason)

[6]

50. (a) 3, 6, 4, 3, 2 2

B2 for all frequencies correct
(B1 for 3 frequencies or 3 tallies correct or one tally with its frequency correct)

(b) 3 1

B1 for 3 or "3" f.t.

(c) 14 1

B1 for 14 or "14" f.t.

[4]

51. (a) 14 1

B1

(b) 5 1

B1

(c) 2 bars 2

B1for correct bar showing 9 boys (nearer 9 than 10 and nearer 9 than 8)
B1 for correct bar showing 6 girls
If no shading or labelling shown, award marks for correct column heights in order of given bars.
Award marks for correct bars in wrong order if labelling or shading shown

(d) Tuesday 1

B1

[5]

52. (a) Wednesday
Friday 2

B1 for Wednesday
B1 for Friday

(b) 30 + 50 + 70 + 170
320 2

M1 for addition of 4 times (condone 1 error)
A1 (accept 320 – 324)

[4]

53. (a) I
IIII
~~IIII~~
III
~~IIII~~ II
Tallies and frequencies 1, 4, 5, 3, 7 2
M1 for at least 3 correct tallies or at least 3 correct frequencies
A1 for all frequencies correct.

(b) 20 1
B1 for 20 or ft from frequencies in (a) or tallies if no frequencies

(c) USA 1
B1 for USA or ft from (a)

[4]

54. Overlay of pie chart – angles of 60º, 120º, 108º 3
B3 for fully correct labelled pie chart within guidelines
(B2 for pie chart with correct angles within guidelines and no labels or for one angle drawn correctly within guidelines and labelled)
(B1 for 1 angle drawn in guidelines and not labelled or for 1 correct angle in table or sight of 360 ÷ 60 or 72 ÷ 12 or 6)

[3]

55. (i) C 1
B1 for each correct answer

(ii) A 1

[2]

56. (a) 7 1
B1 cao

(b) Monday 1
B1 cao accept abbreviations

(c) Tuesday and Wednesday 1
B1 cao accept abbreviations (not T)

[3]

57. (a) $\frac{1}{4}$ 1

B1 for $\frac{1}{4}$ or equivalent fraction

(b) 20×3
60 2

M1 for 360 ÷ 120 or 3 seen or 360 ÷ (120 ÷ 20) or three of 20, 10, 10, 15, 5 seen either on the diagram or seen in a sum of 4 or 5 numbers
A1 ca

[3]

58. (a) 35 1

B1 cao

(b) Warmer in Majorca
Increase in temperature from Jan to Jun 2

B2 for two acceptable comparisons/observations
[B1 for one comparisons/observation]

[3]

59.

Type	Tally	Frequency

3

B1 for Type of newspaper (or listing examples)
B1 for Tally (or tally marks shown)
B1 for Frequency (or Total or evidence of totalling)

[3]

01. Mathematics A Paper 1

This was probably the best answered question on the paper and a high proportion of candidates achieved full marks, some of them because separate half and quarter symbols were accepted as three quarters of a symbol.

Mathematics B Paper 14

This was generally well answered with many candidates scoring all 4 marks.

02. Mathematics A Paper 2

For their answers to (a), most candidates could correctly and clearly explain that there was a label missing on the horizontal axis but fewer were able to give a lucid explanation of what was wrong with the frequency axis. Many candidates gave the reason that there was 'no title'. This answer was not accepted.
Nearly all candidates successfully completed the bar chart in part (b) and went on to give the correct answers of 'blue' for the mode in (c) and '14' for the number of teachers in (d). There were very few successful attempts to part (e). The incorrect answer of one third was frequently seen.

Mathematics B Paper 15

Many were able to recognise that there were two obvious things wrong with the bar chart. Others were critical about a lack of title and the fact that the teachers' names had not been written down; neither of which were awarded marks. Clare's bar chart was nearly always correctly completed. The word 'mode' was correctly interpreted by most as was the number of teachers represented on the bar chart. In the final part the fraction was not always correctly given in spite of the follow through allowed from previous working.

03. There was some evidence of candidates not having a ruler and/or protractor, or where a protractor was available, it was not used accurately to draw sectors within the 2° tolerance required. This question was often not attempted. Few candidates recorded sector angles in the table or showed any working. The question was attempted less successfully than similar questions set in previous years, with only a small percentage of candidates gaining more than one mark.

04. There were a large number of candidates who gained full marks in this question. Many accurate pie charts were drawn and they were almost always correctly labelled. Some candidates calculated the correct angles but were not able to draw them accurately, perhaps because they did not have a protractor. Candidates using a percentage approach were usually unsuccessful.

05. This question was well attempted, with many candidates drawing accurate pie charts. A significant number failed to read the question properly, and included the total "900" in their calculations, thereby rendering the pie chart incorrect. A small number of candidates produced correct angles in the table, but proceeded no further; some of these indicated by a written comment that they did not have a protractor.

06. **Mathematics A Paper 1**

Candidates at this tier normally understand pictograms. This was true in this case as usual. About 95% of candidates were able to give correct answers to this question.

Mathematics B Paper 14

This question was generally well answered demonstrating a good understanding of a pictogram and the ability to relate the symbols to specific quantities. Over 90% of the candidates obtained all 4 marks for this question.

07. The first part proved the most difficult, $\frac{80}{100}$ being a common starting point. The second part was answered better but £45 appeared regularly. The last three parts were well answered.

08. This question was answered very well with 70% of candidates gaining full marks. The angles were generally measured accurately but a few candidates transposed the 40° and 60° when writing the angles in the table. It was disappointing that some candidates attempted the paper without a protractor.

09. **Specification A**

180% of candidates successfully answered part (a) of this question though some did not gain all three marks available due to one or more incorrect frequencies. Some candidates clearly did not seem to understand the term “frequency” and often wrote the frequencies in the tally column. They were not penalised for this on this occasion. Parts (b) and (c) were correctly answered by 98% of candidates.

Specification B

This was a well attempted question with over 80% gaining the full three marks and nearly all candidates scoring the two marks for parts (b) and (c). The connection between the tally and the frequency was understood with only the occasional miscalculation with regard to the quantity resulting in the loss of one mark.
Follow through marks were available in parts (b) and (c) but were rarely needed

10. Foundation Tier

This question was poorly answered with only a 24% of candidates awarded any marks. Often no attempt was made at answering the question. Though a significant number of candidates attempted to draw a well labelled pie-chart, few of the answers seen were accurately drawn. Despite space being given in the question paper most candidates did not write down the sizes of the sectors needed. The evidence suggested that many candidates' answers were not based on correct attempts to work out the angles. Here again was evidence that candidates were poorly equipped for this examination. Only 10% of candidates obtained full marks.

Intermediate Tier

This is a straightforward question which one would expect to be answered well - and it was. Many accurate and correctly labelled pie charts were seen. Those candidates who wrote down the correct angles usually measured the angles accurately although some candidates appeared not to have had a protractor. A significant number of candidates drew a correctly labelled pie chart with just one angle correct, often with no working out shown.

11. This first question was well attempted by candidates, with many gaining full marks. Common mistakes included 9 + 8 + 12 + 5 = 34, or 1+2+3=6.

12. Specification A

In general, this question was very well done by candidates. Only around 3% of candidates were unsuccessful in part (a) and in part (b) the correct response was seen in over 80% of the answers. However little working was shown in (b) and candidates scored either 0 or 2 marks. The completion of the pictogram caused few problems with over 90% of the candidates scoring both available marks.

Specification B

This question provided the opportunity for all candidates to show what they could do and was very well answered. Nearly all candidates earned the mark available in part (a). In part (b) the correct answer was obtained by 4 out of every 5 candidates. However, there were a number of instances where candidates found the sum rather than the difference of the number of rings sold in February and March. Most answers to part (c) satisfied the examiners of the candidate's intention to represent the number of rings sold in April and May by 5 and 3½ circles respectively. Two quarters were accepted as equivalent to one half of a circle in this part of the question.

13. This question on comparative bar charts was well understood by nearly all candidates. In part (a) 88% of candidates were able to read off the number of hours that Helen watched TV and in part (b) 98% of candidates were correctly able to identify the day when Helen and Robin watched TV for the same number of hours. In part (c), whilst 83% of candidates were correctly able to calculate Robin's viewing hours for Friday and Saturday, only 66% could give sufficient reasons why Helen watched more TV on those two days.

14. Though the context of this question was understood by candidates only 66% were able to obtain all the correct frequencies in part (a). The mode in part (b) was only correctly answered by 49% of candidates. Many wrote down the highest frequency of 6, whilst in part (c) only 12% of candidates could work out the range.

15. **Foundation Tier**

This was a very successful question for about 80% of candidates. It was well understood and candidates were able to understand the relationship between the number of ice creams sold on a daily basis and the weather.

Intermediate Tier

Both parts of this question were answered very well indeed. The majority of correct responses in part (b) referred to a change in the weather as the reason for the drop in ice cream sales. Incorrect responses tended to state that 50 ice creams were sold on Monday without giving a reason for the drop in sales, or mixed up the days and implied that Monday's sales were better than Sunday's or Tuesday's.

16. This question was well understood with a high percentage of candidates scoring full marks. 2 marks were obtained by a minority of candidates where they usually made the odd slip with frequencies, not using five bar gates for tallies thus making errors and some transposed the tally and frequency columns. A very small number of candidates wrote their fractions by putting the frequencies over 20. Only a very small percentage of candidates gained 0 marks.

17. This was a well understood question and candidates of all abilities scored well. The only part of this question that caused problems was finding the range in part (c). It was particularly pleasing to see almost all candidates being able to comment correctly on the rising temperature in part (d)

18. This question was answered better than any other question on the paper. Well over 90% of candidates answered each part correctly, showing that the use and construction of bar charts is well understood by most. In part (a) a small proportion of candidates were unable to draw the bar for "Bus" accurately and drew it at a frequency of 5 or 9 rather than 7. If the intent to show a frequency of 7 for "Bus" was clear , the mark was awarded. A few candidates transposed the two bars.

19. Nearly all candidates gained the mark for simple interpretation of the pie chart in the first part of this question. About three in every five candidates were able to work out the correct number of votes in part (b).though a significant minority doubled rather than halved the 36given.

The final part of the question proved to be more of a challenge with only about 10% of candidates gaining both marks for a correctly simplified fraction.

20. Virtually all candidates attempted this question and most scored at least one mark. Marks were usually lost for missing out the tally column or the frequency column. In some cases three columns were given with two of them appearing to serve the same purpose, e.g. 'total' and 'frequency'. A significant number of candidates misunderstood what the question wanted and included extra columns for details such as colour, number of doors, etc. Some candidates designed a question for a questionnaire rather than a data collection sheet.

21. There were few who failed to attempt this question. The proportion of candidates who clearly DID have a protractor with them was considerably higher than in previous years, and there were many accurate pie charts drawn as a result. Labels were usually added, though a few either missed these off, or just wrote the angles on their pie charts instead of labels. The pie chart was not always consistent with the table.

22. Both parts of this question were answered very well indeed. Few marks were lost in the completion of the bar chart in part (a) and where they were it was more often because of incorrect widths or placement of the bars rather than the heights of the bars. A small number of candidates either gave the answer '8' rather than 'blue' in part (b) or gave no answer at all.

23. This was a well answered question with most candidates scoring full marks. Zero marks in any section were usually due to non-attempts.

24. Part (a) was answered correctly by almost all candidates. The second part of the question was also answered very well though a few candidates gave "10" as their answer. Some candidates gave both the name of the pet and the frequency. The vast majority of candidates gained the mark for the final part of the question though some careless errors led to some candidates giving the answer "21" or "23".

25. Most candidates attempted to draw exactly 3 more sectors and the pie charts were nearly always labelled. However, there were many errors in the calculation of angle sizes. Some candidates noted that the difference between the frequency of 20 and the angle of 80º was 60 and went on to add 60 to each of the other frequencies given. Occasionally, candidates had worked out the angles correctly but had not completed the diagram, presumably because they had no access to a protractor. These candidates could only be given partial credit. 43% of candidates provided a completely correct pie chart whilst a further 28% of candidates gained some credit for their answers.

26. Parts (a), (b) and (d) were usually completed well. It was unfortunate that a significant number of candidates failed to attempt part (a), which is inexplicable. In part (c) many candidates did not understand the term "mode", and some put "10" rather than the colour as requested.

27. Parts (a) & (b) were well answered. There were a few minor slips in tallying, and the frequency column was sometimes misplaced, but rarely inaccurate. Part (c) was poorly answered. Many misunderstood the term "range", whilst a significant minority calculated this from the frequency (7-1).

28. Performance on this question was poor, with only ¼ of candidates scoring significant marks. Angles or calculations leading to angles were rarely shown; many pie charts appeared to have been drawn only roughly in proportion to the figures, but scored no marks as the angles, when measured, were rarely accurate. Some inaccuracies arose due to sectors being drawn freehand. Labelling showed some improvement, but without some accurate angles did not attract marks on their own.

29. Most pupils scored at least 2 marks for this question.
72 did appear occasionally in part (c) resulting from adding up the frequency column.

30. This question was well done with most candidates scoring three marks. Very few candidates failed to make use of the key but those who did tediously drew out sixteen, well constructed, smiley faces.

31. There were many good attempts at this question, with a significant number of candidates gaining full marks for a correct pie chart, usually without the angles shown. The success was largely centre dependant. It was also noticeable that many candidates did not have a protractor. Most candidates did however make an attempt, by drawing four sectors, sometimes apparently at random. Often this resulted in the award of 2 marks if the accuracy of one sector was within the given tolerance. Those candidates who chose to use percentages usually failed to draw an accurate pie chart.

32. Part (b) was more often correct than part (a), though a few gained a mark for the correct fraction in (a) which they then failed to simplify. 288 was the most common incorrect answer (b) gained by adding the given angles 100 + 140 + 30 and then adding 18.

33. Most scored full marks on this question. A minority gave the number of hours in both hours and minutes which was rewarded but 2.30 *hours* was also seen and did not gain the mark.

34. The vast majority of candidates scored the first three marks available in this question, demonstrating an ability to understand how to obtain information from a bar chart.
Part (d) was also well attempted although quite a few candidates made careless errors such as plotting the marks scored in the history test at 14. Although candidates were not penalised for rough drawings candidates are to be encouraged to use a ruler when displaying data of this kind. Shading was a problem to some candidates with either both bars shaded or the wrong bar shaded.

35. This was essentially a question about interpreting a bar chart. Reading the vertical scale was dealt with very successfully and only a minority misinterpreted the value in both parts of the question. Most candidates scored both marks.

36. Very well answered showing that almost all of the candidates knew what a pie chart should look like. 58% gained full marks most of the charts being labelled correctly. Use of percentages in determining the size of the sectors failed more often than not.

37. Providing the frequencies was straightforward for most candidates. Tallies were not always evident and some confused candidates gave the tallies and frequencies the same as the number of people in the boat.
There was some confusion as to what was meant by the mode and the mean. The most common response to both parts was 7… the highest number in the frequency column in response to part (b) and the middle number of the 5 given numbers (whether unordered or ordered) in part (c). A common incorrect response to (b) was 20 as candidates provided the total number of boats. A few candidates added the five given numbers to reach 37 in (c) but then failed to divide by 5 to reach the mean of 7.4.

38. This question was tackled successfully by nearly all candidates with over 97% of candidates scoring the first two marks. Part (c) proved marginally more challenging (with 75% scoring the mark) but only in terms of accuracy, not method.

39. The pie chart was not dealt with confidently by the majority of the candidates, with only just over 10% scoring 3 or 4 marks. There was very little evidence of working to establish the size of the angles and where this did appear, an inability to draw an angle of 45° meant that no further progress was made. Some candidates thought that 12, 5, 14, 9 referred to the degrees for each sector whilst others added a zero to each number and attempted to draw angles of 120°, 50°, 140° and 90°. Labelling (or lack of it) was also a problem with candidates labelling sections as 12, 5, 14 and 9, instead of the types of fruit. It was clear that many candidates did not have access to a protractor and a ruler as the drawing of the sector lines were often not straight and the sectors were generally inaccurate. Over 65% of the candidates did not score any of the 4 available marks even though the first mark could be scored by either drawing one angle correctly (± 2°) or correctly calculating one angle or by writing 360 ÷ 40.

40. This question was the most successful on the paper with over 90% of the candidates scoring all 3 available marks. Those that provided incorrect answers tended not to make use of the key, thinking each circle represented 1 hour of sunshine.

41. The starter question asked for a reading from a bar graph in which the interpretation of the vertical scale was required. Most read this accurately as ‘5 cars’ but seeing ‘4.5 red cars’ was suggested by a minority. For part (b) identifying the most popular colour of the cars from the graph didn’t seem to be too difficult. Over 90% scored both marks for question 1.

42. Understanding the pictogram proved to be very successful for almost everyone. Interpretation of the symbols used was first class both in the case of multiple whole symbols and also with the fractional symbols. Completing the pictogram to show '£25' usually produced the correct 1¼ symbols but there was some evidence of 1½ symbols drawn in. Nearly three quarters of the candidates scored all 3 marks.

43. Although not all candidates completed both columns correctly, around 70% of the candidates were able to score both available marks in part (a) by filling in the correct frequencies in one of the two columns. However only just over half the candidates were then able to identify their mode. The most common incorrect response was 6, this being the highest number in the frequency column!

44. Only those with protractors gained significant marks in this question. It was rare to see the correct angles written in the table. Indeed, this was not well answered. Few used the detail already in the table to identify the scale factor of 6. Angles shown were almost chosen at random. A significant number of candidates attempted to draw their chosen angles, found they could not fit, and left a fifth sector as a result. Many drew angles which were almost approximate, and sometimes did not match the angles given in the table. Most candidates wrote correct labels on their sectors, but without a reasonable diagram, no marks could be given.

In part (b) many gained full marks by some equivalent fraction to 90/360. The fraction 15/60 being the answer most seen. A small number still had a complete lack of understanding on how to write their answer for probability giving words or ratio. Many tried to cancel their fraction unsuccessfully or felt they had to give it as a decimal and percentage as well.

45. Candidates need to be encouraged to check their work. A significant number of candidates lost marks through quite basic errors, such as miscounting a number. Most candidates knew to write tallies and then show the frequencies, but a small number only shoed the tallies. In part (b) common errors included writing the 6 (since it was the maximum score shown) and 7 (since this was the maximum frequency). Overall a well answered question.

46. This question was well answered with 97% and 98% of candidates successfully answering parts (a) and (b) respectively. Part (c) was also well answered with most candidates gaining two marks and some gaining partial credit for a correct method.

47. This question was well answered with a large proportion of candidates gaining 2 marks. Of the candidates who did not get the correct answer, many missed the opportunity to gain one mark for reading the scale and finding a difference. For example, the candidates who used the months May and June rather than May and July could have gained one mark for "16 − 12" written down. Too often, they failed to write down any method and the answer"4" without working could not be given any credit.

48. In part (a)(i) over 70% of the candidates knew that 10 students said that 'cycling' was their favourite holiday. In (a)(ii)' calculating how many students took part required the realisation that the 30º sector on the pie chart represented 5 students. Further working indicated that each sector in turn was being translated into the number of students, thus 'cycling' at '60º' became '10 students'. Beyond this point, however, the calculations appeared to go astray in a significant number of cases. There was little evidence of any other type of method being used. The majority of candidates simply wrote the '60' in the answer space without any working with over half the candidates scoring full marks for a correct response. By far the most popular incorrect response was '360°' showing little understanding of what the question was asking.

In part (b) there was less success with just over 40% of the candidates scoring the mark. Some candidates are still writing probability answers in the incorrect form such as '1 in 6' and '1 out of 6' which scored no marks.

49. Nearly all candidates were able to complete the bar chart correctly and 'Guppy' was given as the mode by over 80% of the candidates. Again, nearly all candidates were generally able to provide the correct total number of fish in the tank. In part (d) nearly all candidates were able to provide at least one correct criticism of the bar chart, generally for recognising that the 3rd bar did not have a type of fish written. However one candidate did write 'Molly is not a type of fish, it's the name of her fish!'. Most candidates recognised that there was something wrong with the frequency axis but some responses were not accurate enough to score the mark. Many wrote that the numbers were not in order, which is not strictly true, or 'not even' without referring to the interval. There were quite a few students who mentioned that 'the bar graph shouldn't go to 11 because the highest bar was only 9'. Over ¾ of the candidates scored both marks.

50. This question too was well understood with 62% candidates obtaining fully correct solutions and a further 26% scoring 3 marks. Common mistakes were miscounting for tallies... though some did not do any tallies, multiplying by the frequency (possibly creating an extra column). A significant number of candidates put 13 tallies in the tally column, and another 13 in the frequency column and then did the same for 14, 15 etc. These candidates were allowed a follow through in parts (b) and (c).

Almost all candidates obtained the answer 3 in part (b) but there were many follow through marks. In part (c) the answer of 14 for the mode was almost always correct again often with a follow through but some candidates did try to calculate the mean. Only 2% of candidates failed to score any marks in this question.

51. This question was well understood with 94% of candidates obtaining the correct answer for part (a) and 88% of candidates for part (b). In part (c) wrong answers were only seen occasionally mostly for drawing the '9' bar too inaccurately whilst only a few drew the '6' bar wrongly.

Almost all candidates obtained the answer 3 in part (b) but there were many follow through marks. In part (c) the answer of 14 for the mode was almost always correct again often with a follow through but some candidates did try to calculate the mean. Only 2% of candidates failed to score any marks in this question.

52. 92% of the candidates correctly identified both of the two days when Karen spent more time than Andrew watching television. 5% of the candidates correctly identified only one of the two days. In part (b) most candidates recognised the processes needed to answer the question but many answers were spoilt by careless errors. About 7 in every 10 of candidates were awarded two marks here. A significant number of candidates misread either the question or the graph and attempted to work out the total amount of time Karen spent watching television. A generous mark scheme enabled examiners to award these candidates some credit.

53. Over 97% of candidates scored at least half marks in this question. In part (a) completion of the frequency table was done well though a further check might have saved some candidates from losing a mark through inaccuracy. Nearly all candidates were able to either give the correct answer to part (b) or obtain the mark from a follow through from their frequency table. It is encouraging to note that most candidates appeared to realise that the highest frequency was the key to identifying the mode in part (c). However, unfortunately a large proportion gave "7" as their answer and not "USA" as required.

54. Most candidates were able to score 2 or 3 marks in this question, but it was clear that a significant number of candidates were not equipped with a protractor and ruler for the examination. Candidates should be encouraged to bring a protractor to this examination. A common answer here was to correctly measure one of the angles (usually French 60°) and then to measure one of the remaining angles incorrectly (usually Music 108°). A common error in calculating the angle was to use 12 + 60 = 72 for Art students, and then to add 60 to each of the student numbers to get the 'angles' of 70, 80 and 78.

55. This question was done well by many candidates. Most were able to identify bar chart C for statement (ii), but a common incorrect answer for statement (iii) was B.

56. Around 96% of candidates answered all 3 parts of this question correctly. The few responses that were incorrect read the wrong bar, and gave an answer of 6 (the number of TVs sold on Friday), or 9 (the number of TVs sold on Saturday in part (a) and did not read the height of the bar correctly in (b) with 3 being the most common incorrect response.

57. Part (a) was answered correctly by just over half the candidates.

Answers of ¼ with 15, 90, 0.25 or 25% were also permitted. Common incorrect responses, which scored no marks, were 90° (the size of the angle on the pie chart representing Comedy), 15 (the number of student preferring Comedy), $\frac{1}{5}$ (as the pie chart is in 5 sections!), and $\frac{15}{360}$.

Many candidates struggled to work out the total number of students Colin asked although 44% did score both marks. The most common incorrect response was 50. Those that obtained at least three of the sections correct, often seen on the diagram, were rewarded with a method mark. However many then failed to complete the task by either adding their values incorrectly or leaving out one of the sectors.

58. Part (a) in this question was almost always answered correctly with 80% of candidates scoring this mark. In part (b) candidates were allowed marks for writing similar responses e.g. London is colder than Majorca and Majorca is hotter than London. The question which is notionally set at a low tariff on the foundation tier was trying to elicit any reasonable comments on this dual bar chart. It was interesting to see that 63% of candidates scored 2 marks and 24% scored 1 mark.

59. The responses to this question were disappointing. This is a standard question if one is looking to collect data from a number of people. We were expecting to see responses where candidates gave a range of newspapers, made a tally of the number of people they asked and there was a total for each newspaper. Only 31% of candidates gained 3 marks whilst 21% gained 2 marks and 1 mark was obtained by 35% of candidates. Many candidates tried to draw a graph to collect their data and some even made up a question with tick boxes; these candidates did not score many marks.