



CLASSIFIED

International Examinations Papers

Mob: +974 55373670 / 33787500
E-mail: chymrc.muhammad@gmail.com

MATHEMATICS - CORE

TOPIC- Statistics (Bar charts)

- 1 (a) A group of 20 children were asked to choose their favourite type of fruit juice. The results are listed below.

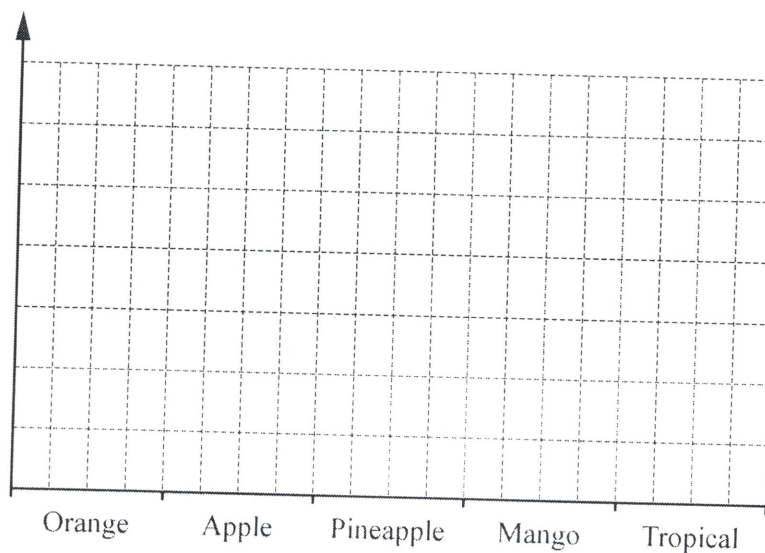
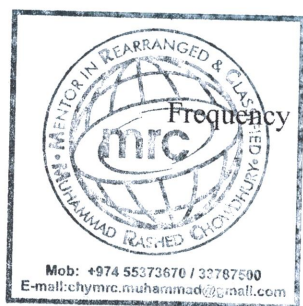
Orange	Apple	Apple	Pineapple	Mango
Tropical	Orange	Mango	Apple	Mango
Pineapple	Apple	Apple	Mango	Orange
Apple	Mango	Pineapple	Orange	Apple

- (i) Complete the frequency table for the results. You may use the tally column to help you.

Type of juice	Tally	Frequency
Orange		
Apple		
Pineapple		
Mango		
Tropical		

[2]

- (ii) Draw a bar chart to show these results. Remember to mark the scale on the frequency axis.



[3]

- (iii) Sarah has a pack of 20 cartons of juice. 5 are orange, 5 are apple, 5 are pineapple and 5 are mango. She would like to give each child their favourite type of juice.

How many children will **not** get their favourite type of juice?

..... [1]

- (b) One litre of a mixed fruit drink contains 550 millilitres of apple juice.

Write down the fraction of the drink that is apple juice.
Give your answer in its simplest form.

..... [2]

- (c) Amir wants to buy a bottle of fruit juice.
There are three sizes of bottle.

0.9 litres
\$2.40

1.25 litres
\$3.15

1.35 litres
\$3.50

Work out which size of bottle gives the best value.
Show how you decide.

..... [3]

- (d) The amount of juice in a glass, j millilitres, is 150 millilitres correct to the nearest 10 millilitres.

Complete this statement about the value of j .

..... $\leq j <$ [2]



2 Javier went to a carnival with his friends.

- (a) He played five games of darts.
These are his scores.

160 58 45 82 125

- (i) Work out his mean score.

..... [2]

- (ii) Find the range.

..... [1]

- (b) The 5000 tickets for the carnival are different colours.
The table shows the number of tickets of each colour.

Colour of ticket	Red	Green	Blue	Pink	White
Number of tickets	370	560	1800	1320	950

A ticket is picked at random.

Find the probability that this ticket is Blue.

..... [1]

- (c) Five different types of food are sold at the carnival.
Javier chooses one of these types of food.
The table shows the probability that he chooses each type of food.

Type of food	Curry	Fries	Pasta	Burger	Salad
Probability	0.15	0.23	0.4		0.07

Complete the table.

[2]

- (d) Javier hires a four-seater bike.
The hire cost is \$8.50 for the first hour and then \$7.75 for each extra hour.

Calculate the cost of hiring the bike for 5 hours.

\$..... [2]

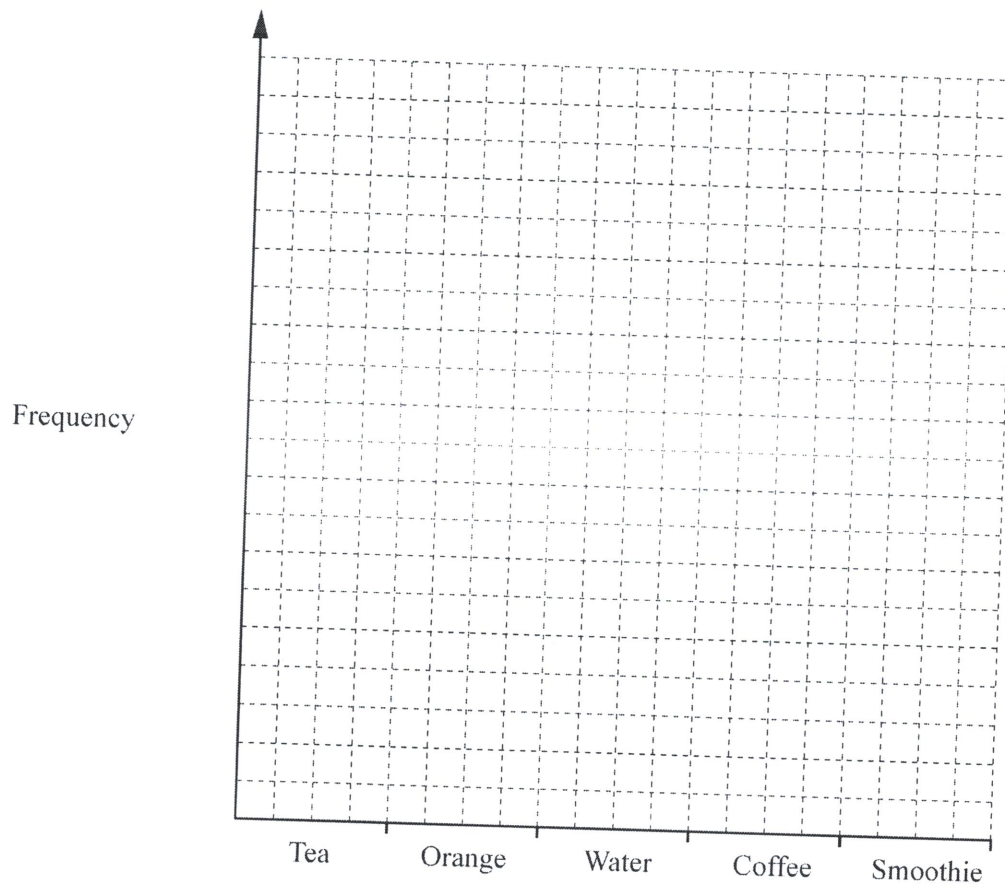


(e) The table shows the number of drinks sold by one stall at the carnival.

Drink	Number sold
Tea	70
Orange	60
Water	120
Coffee	180
Smoothie	40



Draw a bar chart to show this information.
Complete the scale on the frequency axis.



[3]

- 3 (a) Amir asked 15 friends how many hours they spent playing sport last weekend. His results are shown in the table below.

Number of hours	0	1	2	3	4	5
Frequency	6	2	3	1	2	1

- (i) Write down the mode.

Answer(a)(i) hours [1]

- (ii) Find the median.

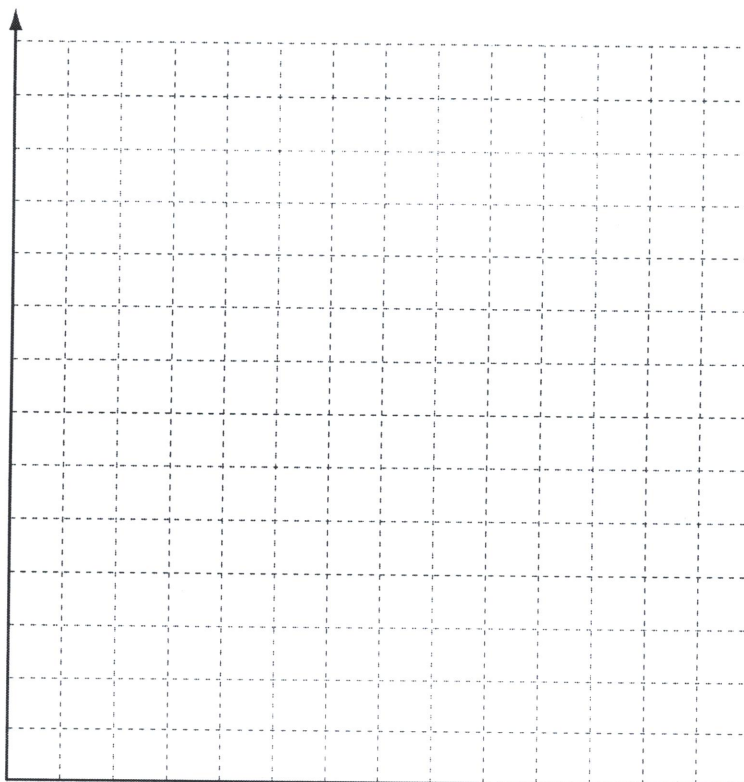
Answer(a)(ii) hours [1]

- (iii) Calculate the mean.

Answer(a)(iii) hours [3]

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

Frequency



Number of hours

[4]



04 Chip went on a cruise ship from St Petersburg. It visited four other ports. 30 guests are asked which port they enjoyed the most. Each reply is listed below.

Stockholm	St Petersburg	St Petersburg	Helsinki	Tallinn	St Petersburg
Tallinn	Helsinki	Tallinn	Copenhagen	Tallinn	Copenhagen
St Petersburg	St Petersburg	Stockholm	St Petersburg	Stockholm	Helsinki
Helsinki	St Petersburg	Tallinn	Tallinn	St Petersburg	St Petersburg
Stockholm	Tallinn	St Petersburg	Helsinki	Tallinn	Copenhagen

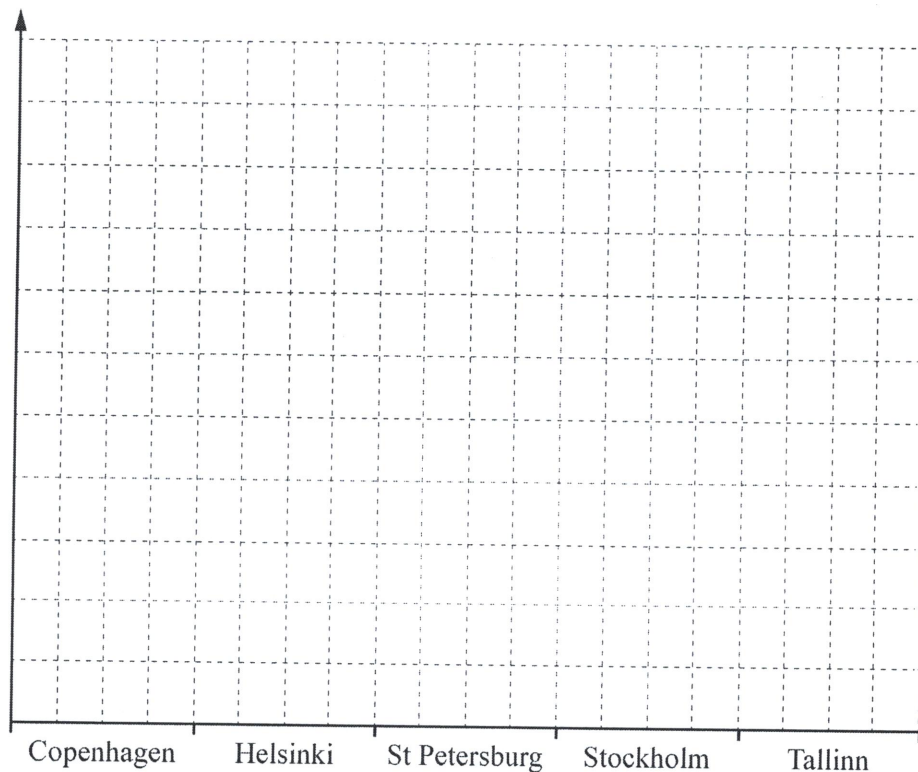
- (i) Complete the frequency table.
You may use the tally column to help you.

Port	Tally	Frequency
Copenhagen		
Helsinki		
St Petersburg		
Stockholm		
Tallinn		
Total		30

[2]

- (ii) Draw a bar chart to show this information.
Complete the scale on the frequency axis.

Frequency



[3]

05 Pedro is on a cruise ship.

(a) The ship has a climbing wall.

These are the number of attempts that each of 30 people made at climbing the wall.

29 27 11 3 12 4 29 9 16 17 30 29 38 36 18
2 15 24 36 3 33 26 21 9 38 4 28 23 19 27

(i) Find the range.

Answer(a)(i) [1]

(ii) Complete the frequency table.

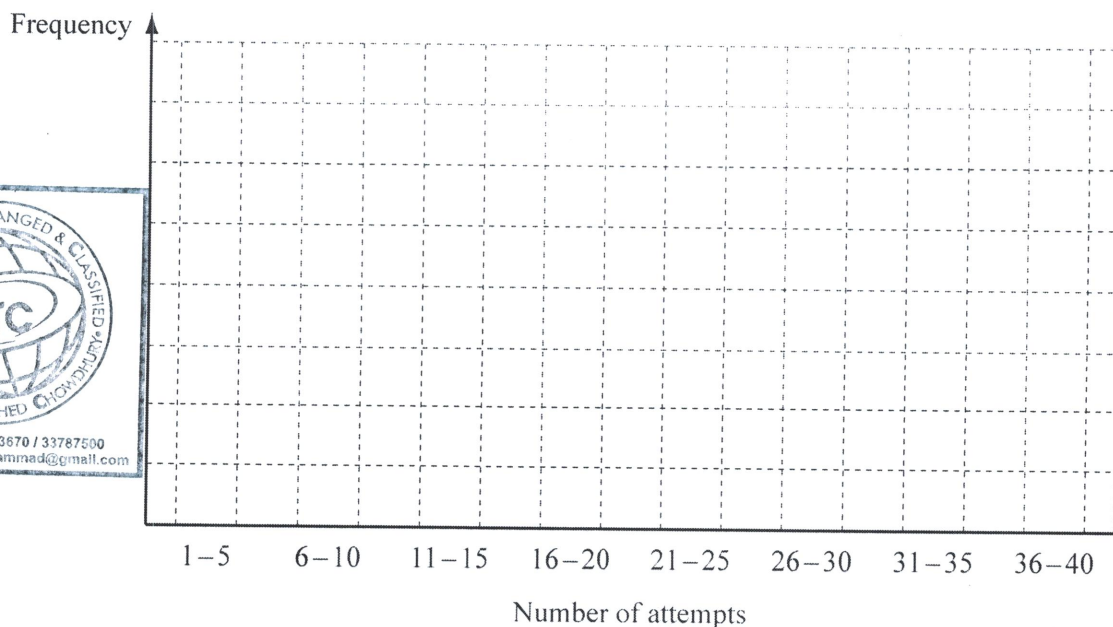
You may use the tally column to help you.

Number of attempts	Tally	Frequency
1–5		
6–10		
11–15		
16–20		
21–25		
26–30		
31–35		
36–40		

[2]

(iii) Draw a bar chart to show this information.

Complete the scale on the frequency axis.



[3]

(iv) Write down the modal group.

Answer(a)(iv) [1]

(b) Pedro left the ship in Cadiz at 08 45.
He returned to the ship at 16 10.
Find how long Pedro was in Cadiz.

Answer(b) hours minutes [1]

(c)

<p>Exchange Rate</p> <p>\$1 = €1.428</p>

(i) Pedro changed \$167 into euros (€).

Calculate how many euros Pedro received.
Give your answer correct to 2 decimal places.

Answer(c)(i) € [2]

(ii) Later, Pedro changed €107.10 back into dollars (\$) using the same exchange rate.

Calculate how many dollars Pedro received.

Answer(c)(ii) \$ [2]

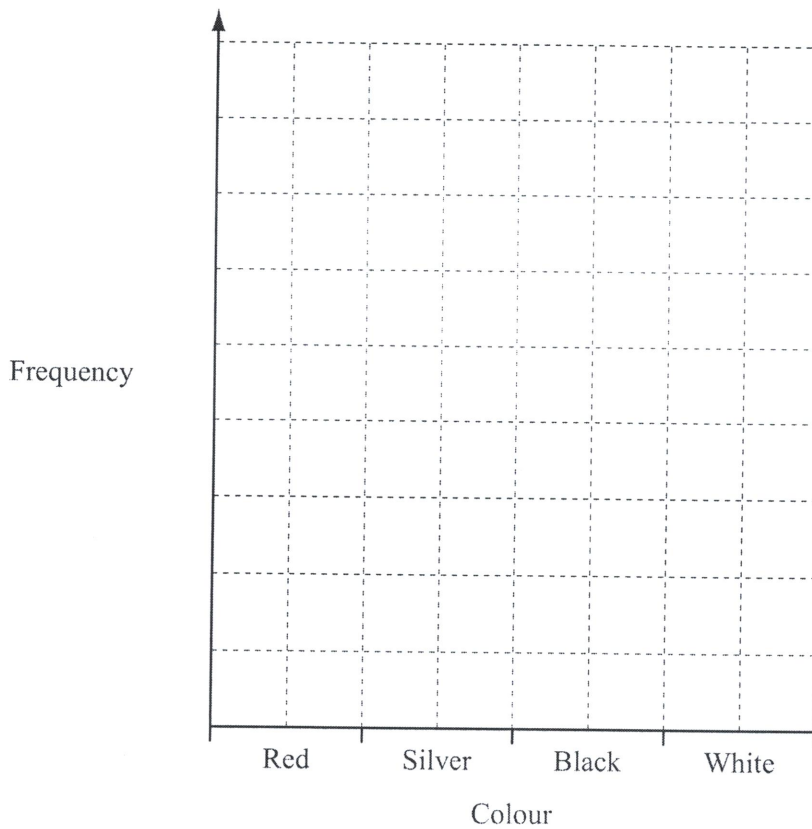
06 The colours of 30 cars in a car park are shown in the frequency table.

For
Examiner's
Use

Colour	Frequency
Red	5
Silver	15
Black	6
White	4



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



[3]

(b) Write down the mode.

Answer(b) [1]

07 There are 39 black cars.

(i) Calculate the sector angle in the pie chart for the black cars.

Answer(b)(i) [2]

(ii) Complete the pie chart.
Label each of your sectors.

[2]

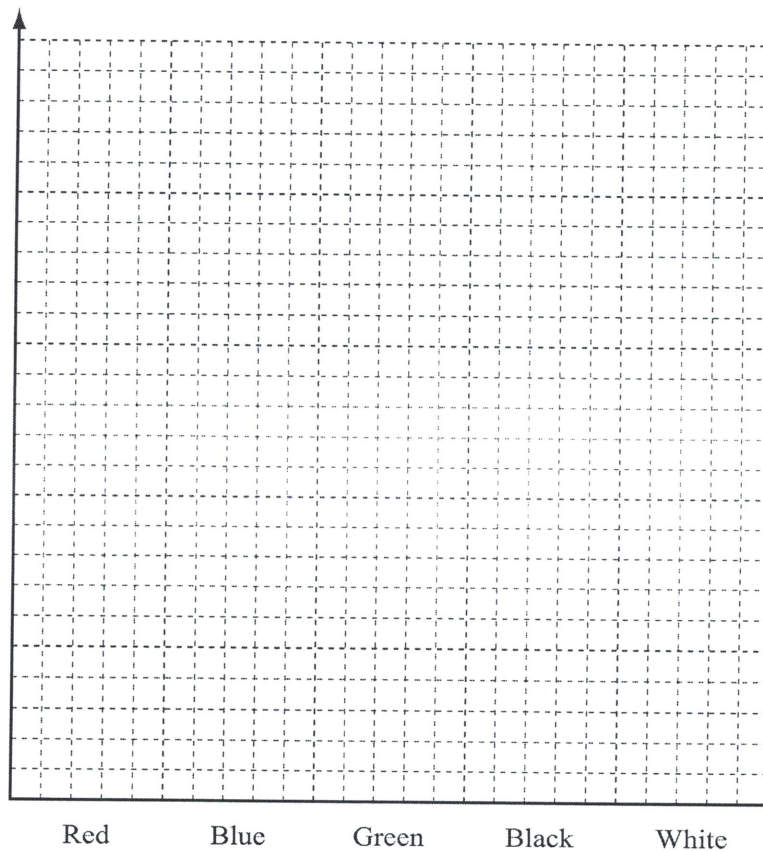
(c) The manager asked 100 people which colour of car they prefer.
The results are shown in the table.

Red	Blue	Green	Black	White
25	40	6	16	13

(i) On the grid, draw a bar chart to show this information.
Complete the scale on the frequency axis.



Frequency



[3]

(ii) The manager uses the results when she orders 900 cars, in these colours, for the next year.
How many blue cars do you expect her to order?

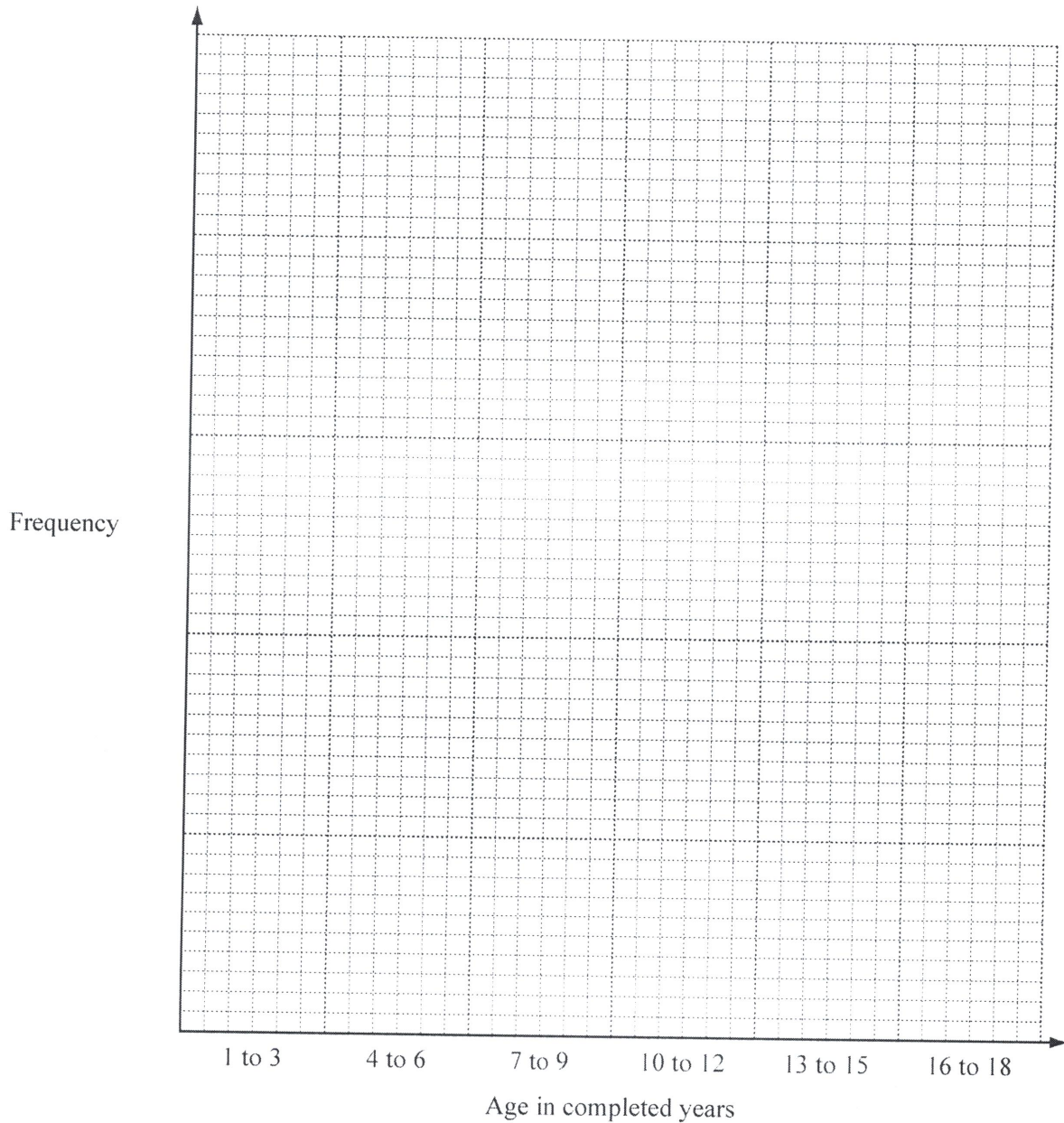
Answer(c)(ii) [2]

- 8 (a) One day a survey is taken of the ages of 120 children at a fairground. The results are shown in the frequency table.

Age in completed years	Number of children
1 to 3	12
4 to 6	19
7 to 9	32
10 to 12	41
13 to 15	9
16 to 18	7



- (i) On the grid, draw a bar chart for this data. Complete the scale on the frequency axis.



[3]

- (ii) What is the modal age group?

Answer(a)(ii) [1]

- (iii) One of the 120 children is chosen at random.

Write down the probability that the child is aged 4 to 6.

Answer(a)(iii) [1]

- (b) Lalia says the probability of taking a yellow bead from a bag containing yellow beads and black beads is $\frac{7}{5}$.

Explain why $\frac{7}{5}$ cannot be a correct probability.

Answer(b) [1]

- (c) Another bag contains 9 green marbles and 11 red marbles. A marble is taken at random.

Write down the probability that the marble is

- (i) green,

Answer(c)(i) [1]

- (ii) blue.

Answer(c)(ii) [1]

Question 9 is printed on the next page.



- 09 (a) Angelica goes to watch a football match.
She entered the stadium at 19 20 and left at 22 05.

Work out the number of hours and minutes she was in the stadium.

Answer(a) hours minutes [1]

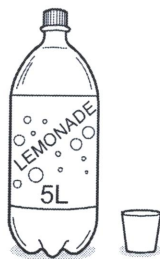
- (b) The number of people watching the football match was 25 926.

Write 25 926 correct to the nearest thousand.

Answer(b) [1]

- (c) The football club buys lemonade in 5 litre bottles.

Work out the number of 250 millilitre drinks that can be poured from one bottle.



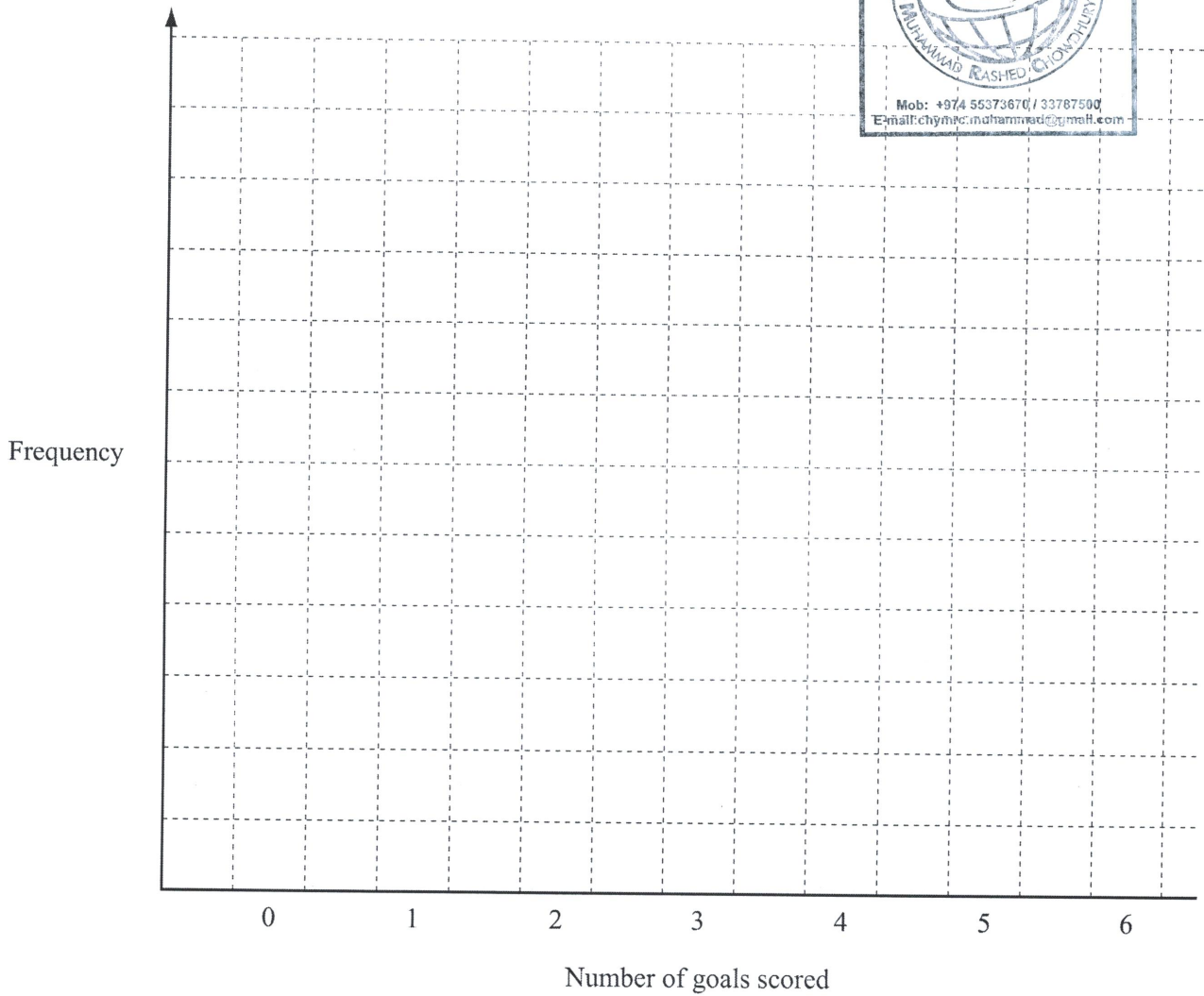
Answer(c) [2]

- (d) The table shows the number of goals scored in each match by Mathsletico Rangers.

Number of goals scored	Number of matches
0	4
1	11
2	6
3	3
4	2
5	1
6	2



(i) Draw a bar chart to show this information.
Complete the scale on the frequency axis.



(ii) Write down the mode. [3]

Answer(d)(ii) [1]

(iii) Calculate the mean.

Answer(d)(iii) [3]

- 10 (a) A group of 20 boys were asked which type of movie they liked best.
Each boy's choice is shown below.

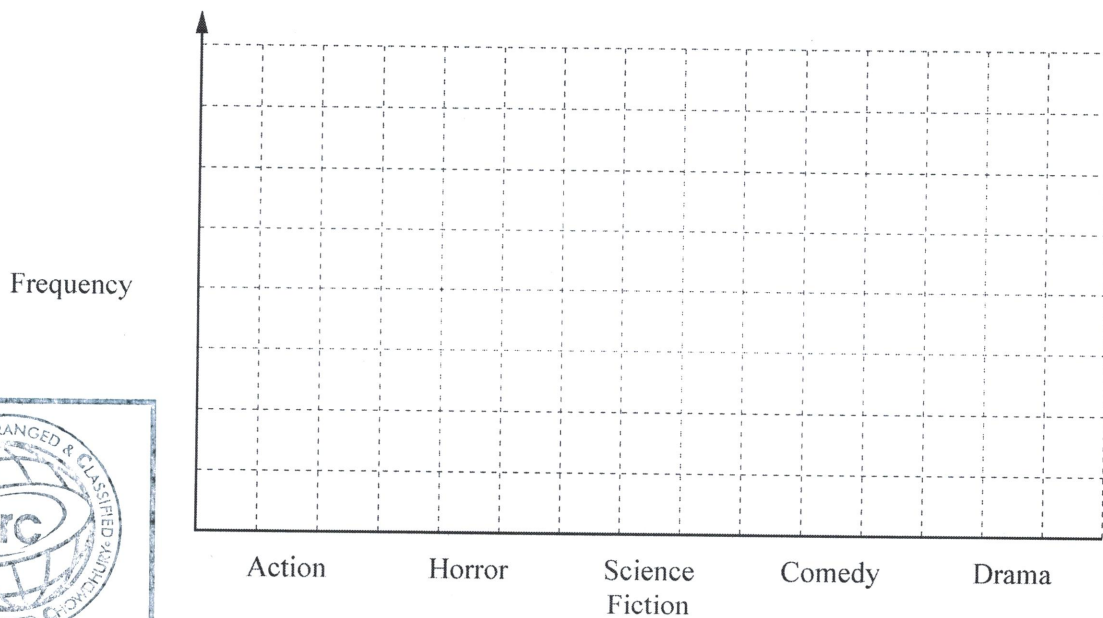
Action	Science Fiction	Comedy	Drama	Comedy
Horror	Action	Science Fiction	Science Fiction	Comedy
Comedy	Horror	Comedy	Horror	Comedy
Horror	Action	Action	Horror	Drama

- (i) Complete the frequency table for the results.
You may use the tally column to help you.

Type of movie	Tally	Frequency
Action		
Horror		
Science Fiction		
Comedy		
Drama		
Total		20

[2]

- (ii) Draw a bar chart to show this information.
Complete the scale on the frequency axis.



[3]

- (b) A group of 24 girls were also asked which type of movie they liked best. The results are shown in the table below.

Type of movie	Frequency
Action	5
Horror	3
Science Fiction	2
Comedy	6
Drama	8



One of these girls is picked at random.

Find the probability that she liked comedy or drama best.

Answer(b) [1]

- (c) Khalid says:

Comedy movies are equally popular with boys and girls.

Is he correct?

Give a reason for your answer.

Answer(c) because

..... [1]

- (d) A group of 25 people were asked how many movies they had watched in the last two weeks. The results are shown in the table below.

Number of movies	0	1	2	3	4	5	6
Frequency	4	6	5	3	5	0	2

- (i) Find the median.

Answer(d)(i) [2]

- (ii) Calculate the mean.

Answer(d)(ii) [3]

11 (a) The number of trains stopping each day, for 20 days, at Pherlak Station is recorded below.

15 14 16 14 13 13 12 15 16 15
 14 13 14 13 13 12 11 12 10 10

(i) Complete the table to show the frequency of the number of trains stopping each day.

Number of trains stopping each day	Tally	Frequency
10		
11		
12		
13		
14		
15		
16		



[2]

(ii) Write down the modal number of trains stopping each day.

Answer(a)(ii) [1]

(iii) Work out the mean number of trains stopping each day.

Answer(a)(iii) [2]

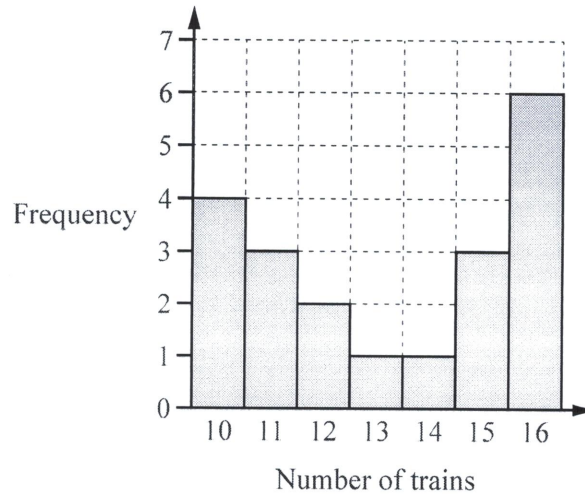
(iv) The time of the last train to leave one night is shown on this clock.



Write down this time using the 24-hour clock.

Answer(a)(iv) [1]

(b) This bar chart shows the number of trains stopping each day, for 20 days, at Sparke Station.



(i) Write down the modal number of trains stopping each day at Sparke Station.

Answer(b)(i) [1]

(ii) Write down the range of the number of trains stopping each day at Sparke Station.

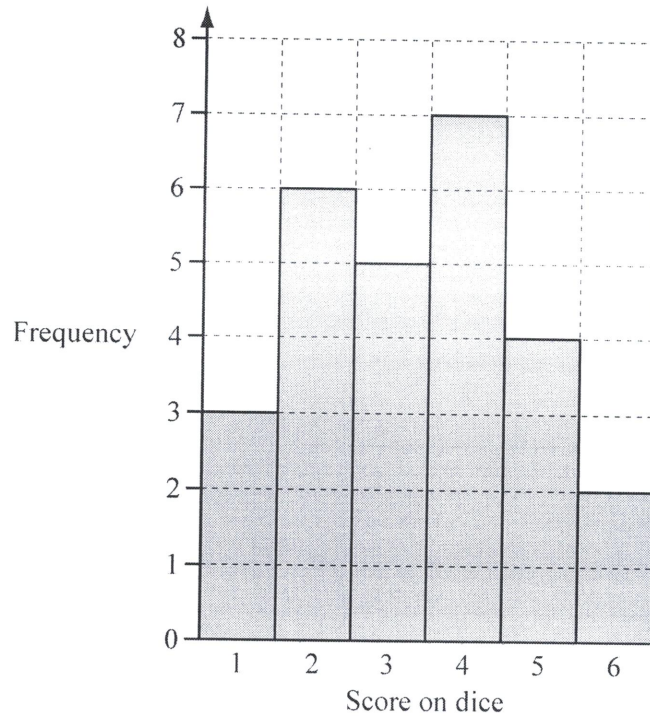
Answer(b)(ii) [1]

(iii) Write one comment comparing the number of trains stopping each day at Pherlak Station to those stopping at Sparke Station.

Answer(b)(iii)

 [1]

12 Marco throws a six-sided dice 27 times.
The bar chart shows his results.



(a) Write down the mode.

Answer(a) [1]

(b) Work out the probability that Marco throws a number less than 5.

Answer(b) [2]

(c) Calculate the mean.

Answer(c) [3]

Permission to reproduce items where third-party owned material protected by copyright is included has been sought and cleared where possible. Every reasonable effort has been made by the publisher (UCLES) to trace copyright holders, but if any items requiring clearance have unwittingly been included the publisher will be pleased to make amends at the earliest possible opportunity.

University of Cambridge International Examinations is part of the Cambridge Assessment Group. Cambridge Assessment is the brand name of University of Cambridge Local Examinations Syndicate (UCLES), which is itself a department of the University of Cambridge.

13

(a) 21 11 7 29 3 20 24 8 18 14

For these numbers

(i) calculate the mean,



Answer(a)(i) [2]

(ii) find the median,

Answer(a)(ii) [2]

(iii) find the range.

Answer(a)(iii) [1]

(b) The table shows the number of births for each month of 2013 in a hospital.

Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec
319	299	336	309	334	336	348	363	351	347	331	335

(i) On the grid opposite, complete the bar chart.
The first 6 months have been drawn for you.

[2]

(ii) Write down the modal month.

Answer(b)(ii) [1]

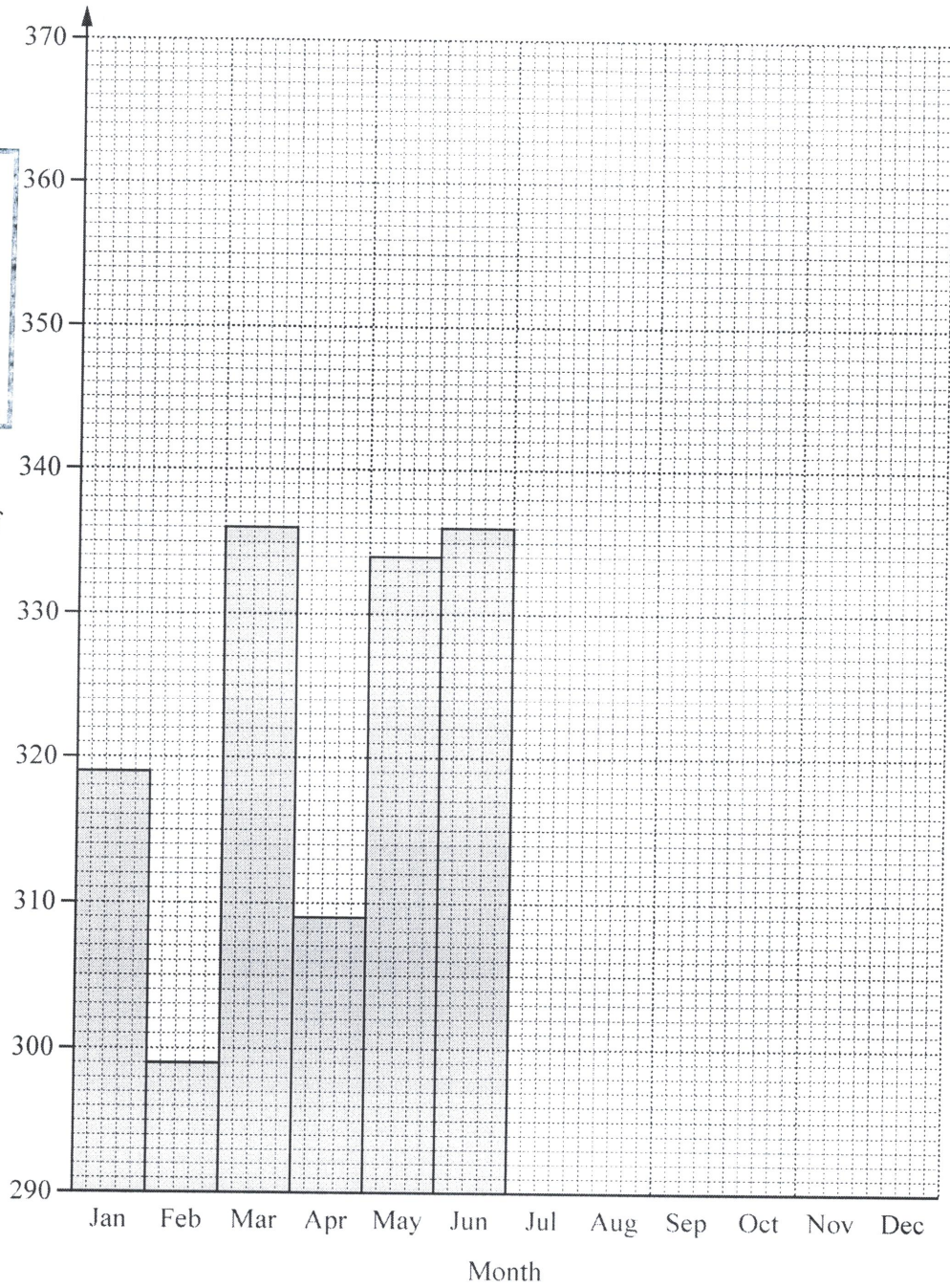
(iii) A month is chosen at random.

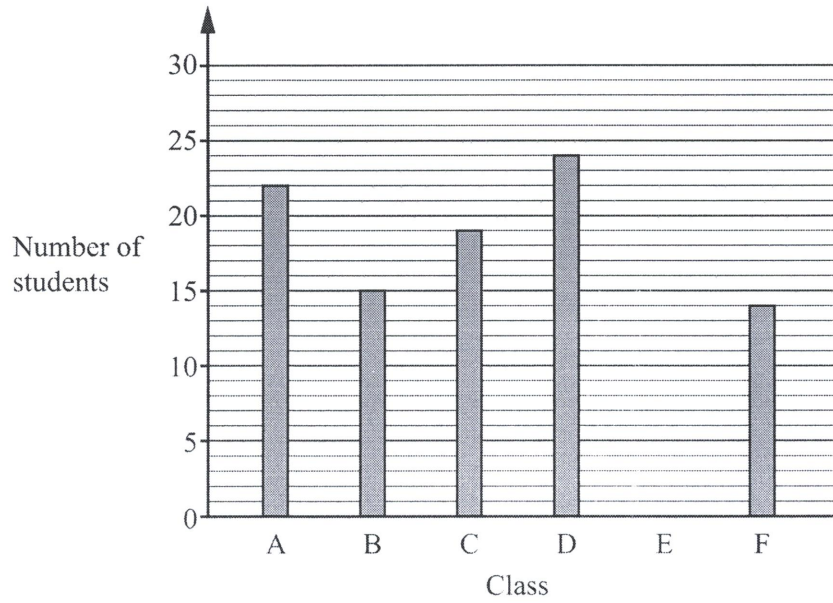
Find the probability that the number of births in that month is greater than 340.

Answer(b)(iii) [1]



Number of
births





The bar chart shows the number of students in each of the Classes A, B, C, D and F.

(a) Write down how many **more** students there are in Class D than in Class B.

..... [1]

(b) The total number of students in these six classes is 117.

Draw the bar for Class E.

[2]

15 Write down the next term in each of these sequences.

(a) 19, 15, 11, 7, 3,

[1]

(b) 0, 1, 4, 9, 16,

[1]

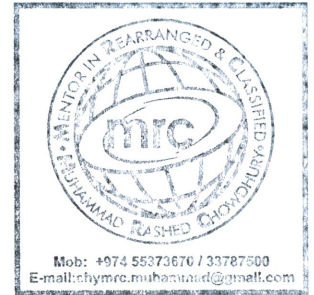
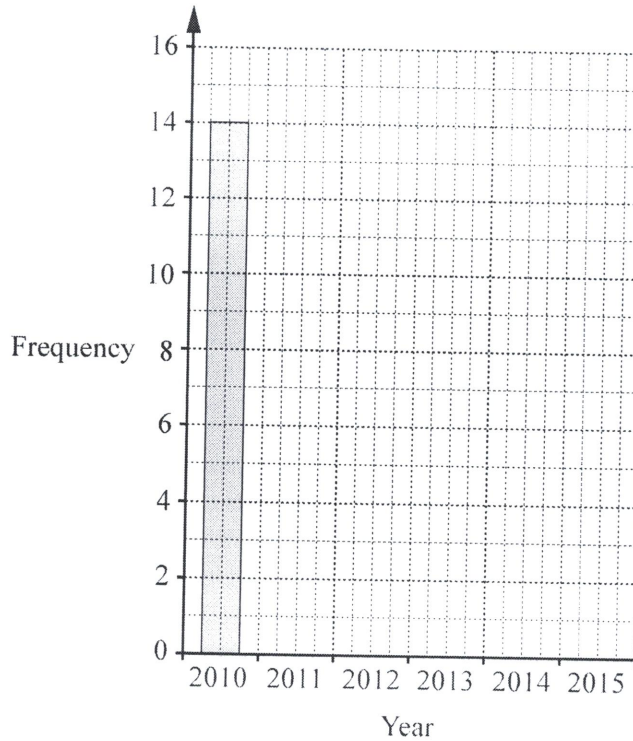
(c) 3, 5, 9, 17, 33,

[1]

- 15** A garage sells second-hand cars.
The table shows the number of cars sold and the year they were made.

Year	2010	2011	2012	2013	2014	2015
Frequency	14	13	4	8	0	11

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



[2]

- (b) For these cars, write down the modal year.

..... [1]

- (c) The garage sold 6 cars last week.
The selling prices, in dollars, are listed below.

920 1070 3100 2240 2650 1840

- (i) Work out the range.

\$..... [1]

- (ii) Work out the median.

\$..... [2]

- (iii) Calculate the mean.

\$..... [2]

16 Francis asks 30 families how many children they have.
The table shows the results.

Number of children in each family	0	1	2	3	4	5
Number of families	4	6	6	2	9	3

(a) (i) Write down the mode.

..... [1]

(ii) Find the median.

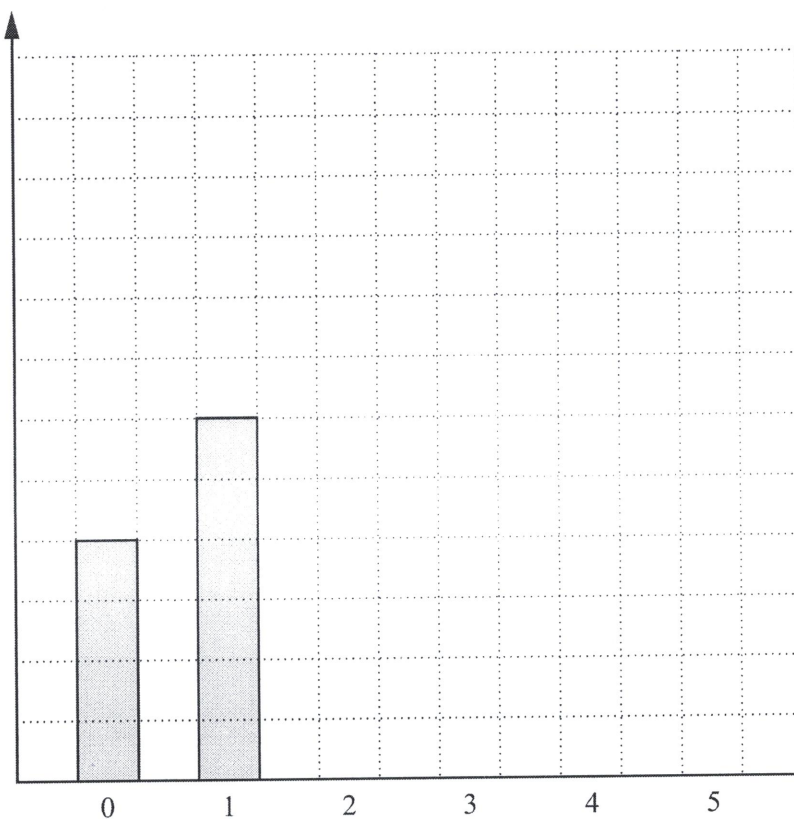
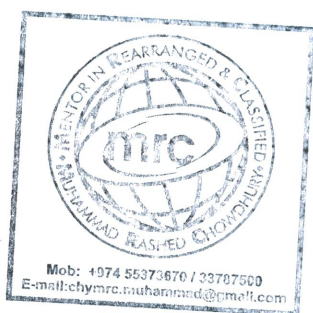
..... [1]

(iii) Calculate the mean.

..... [3]

(iv) Complete the bar chart, including the vertical scale.

Number of families



Number of children in each family

[3]

- (b) Francis also recorded the age group and gender of the children aged 12 or less. The information is shown in the table.

	Age 4 and younger	Age 5 to 8	Age 9 to 12	Total
Male			9	
Female	11			36
Total		30	20	75

Complete the table.

[2]

- (c) Francis displays the results for the totals of each age group on a pie chart. The sector angle for the group 'Age 4 and younger' is 120° .

Calculate the sector angle for

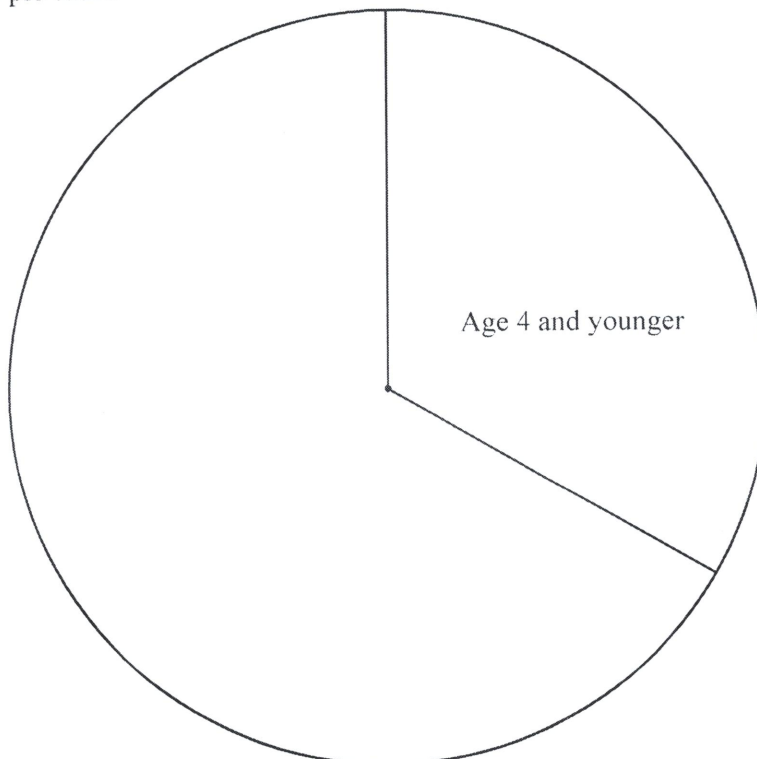
- (i) age 5 to 8,

..... [2]

- (ii) age 9 to 12.

..... [1]

- (d) Complete the pie chart.



[1]