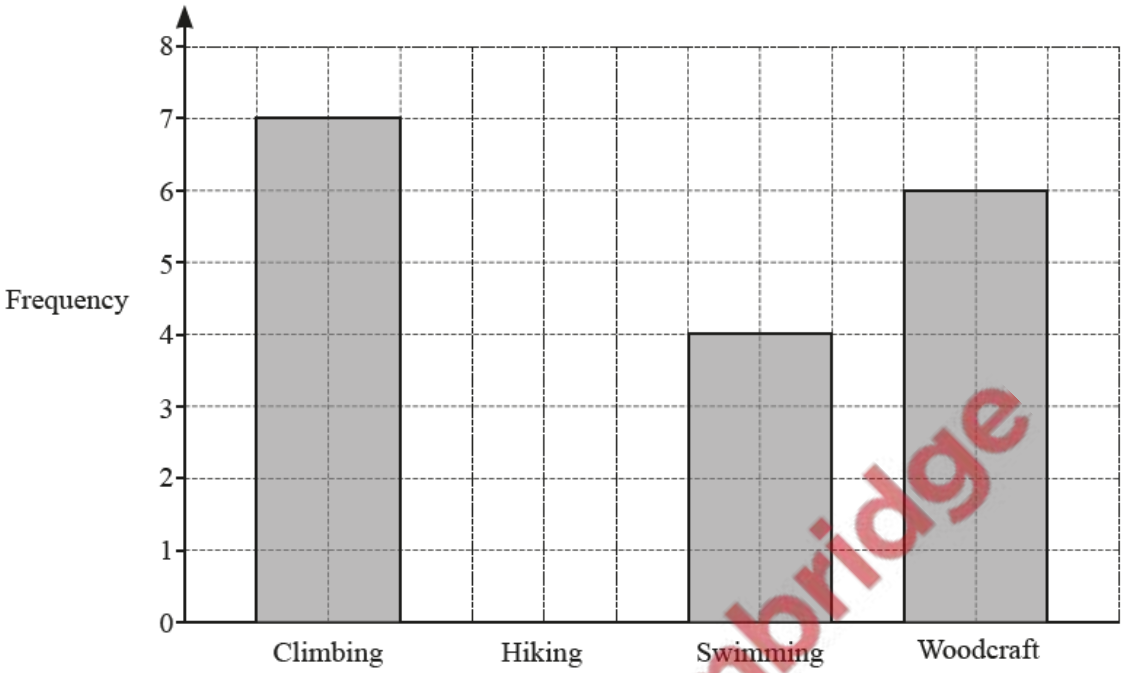
1. June/2022/Paper_11/No.1

Students at an activity centre choose one of four activities.
The bar chart shows some of their choices.



(a) 5 students choose hiking.

Complete the bar chart. [1]

(b) Write down the most popular activity.

..... [1]

2. June/2022/Paper_11/No.8

Here is some information about six numbers:

- The lowest number is 37.
- The range is 24.
- The mode is 43.
- The median is 46.
- One number is a multiple of 11.

Find the other five numbers.

37, ..., ..., ..., ..., ... [4]

3. June/2022/Paper_11/No.17(b)

(b) Work out the mean score.

..... [3]

4. June/2022/Paper_12/No.4

The stem-and-leaf diagram shows the journey time to school of some students.

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

Key: 1|3 represents 13 minutes

Find

(a) the number of students with a journey time of more than 35 minutes,

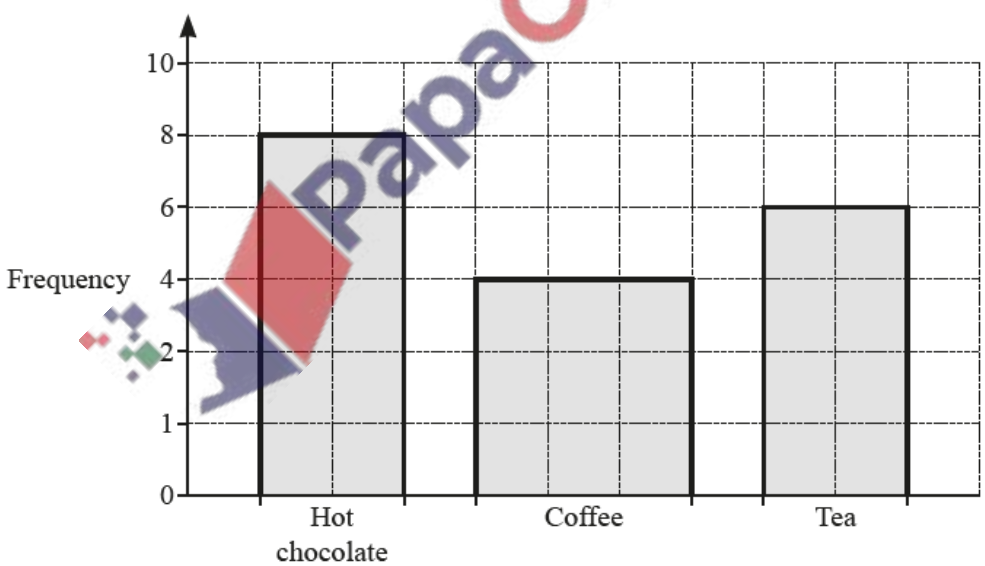
..... [1]

(b) the mode.

..... min [1]

5. June/2022/Paper_12/No.6

Sammy records the favourite hot drink of some students.
He draws a bar chart to show this information.



Write down two different reasons why his bar chart is incorrect.

1. .....

2. ..... [2]

6. June/2022/Paper_12/No.9

Thibault records the number of cars of each colour in a car park.

Colour	Black	White	Silver	Red
Number of cars	8	5	4	3

(a) He draws a pie chart to show this information.

Calculate the sector angle for the red cars.

..... [2]

(b) Two more white cars enter the car park and no cars leave the car park.

When these two white cars are included in the results, will the sector angle for the red cars change? Without doing any further calculations, give a reason for your decision.

..... because ..... [1]

7. June/2022/Paper_13/No.10

These are the masses, in kg, of 12 parcels.

0.3 0.4 1.2 0.8 1.1 2.1 1.7 1.8 1.2 2.3 0.7 1.1

(a) Complete the stem-and-leaf diagram for the 12 parcels.

0	3 4
1	
2	

Key: 0 | 3 represents 0.3 kg

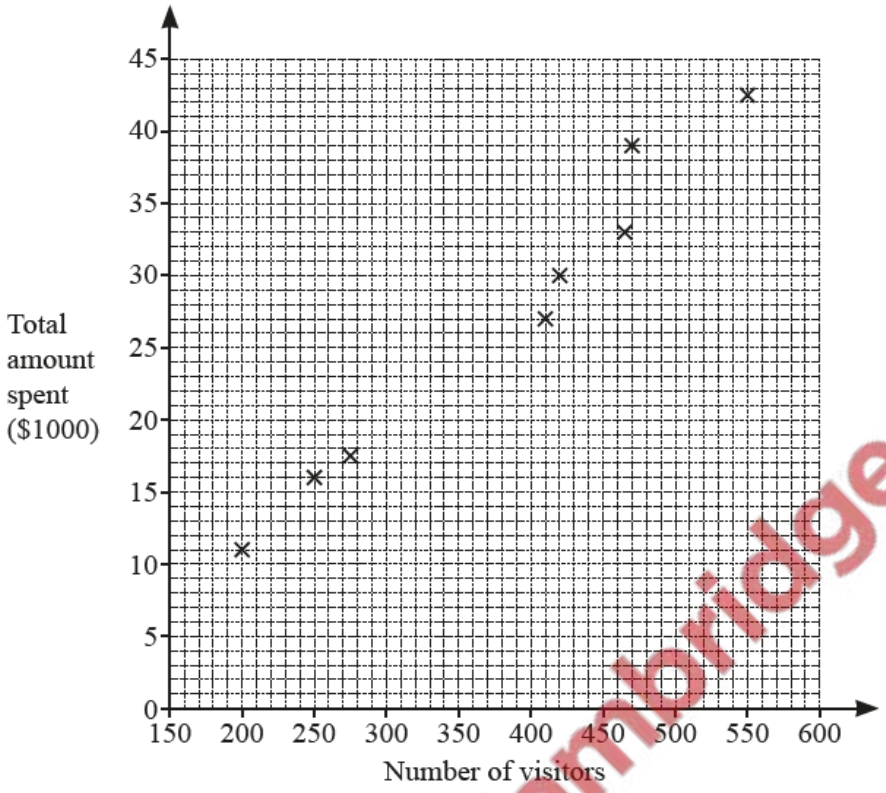
[2]

(b) Find the median.

..... kg [1]

8. June/2022/Paper_13/No.13

The scatter diagram shows the number of visitors and the total amount spent, in thousands of dollars, at a zoo on each of eight days.



(a) On one of the eight days there are 410 visitors.

Find the total amount spent by visitors during this day.

$ ..... [1]

(b) Information for the ninth day is shown in the table.

Number of visitors	175
Total amount spent ($1000)	9

Plot this information on the scatter diagram. [1]

(c) Draw a line of best fit on the scatter diagram. [1]

(d) On the tenth day the total amount spent is $22 000.

Estimate the number of visitors on this day.

..... [1]

9. June/2022/Paper_22/No.2

Thibault records the number of cars of each colour in a car park.

Colour	Black	White	Silver	Red
Number of cars	8	5	4	3

He draws a pie chart to show this information.

Calculate the sector angle for the red cars.

..... [2]

10. June/2022/Paper_23/No.4

These are the masses, in kg, of 12 parcels.

0.3 0.4 1.2 0.8 1.1 2.1 1.7 1.8 1.2 2.3 0.7 1.1

(a) Complete the stem-and-leaf diagram for the 12 parcels.

0	3 4
1	
2	

Key: 0 | 3 represents 0.3 kg

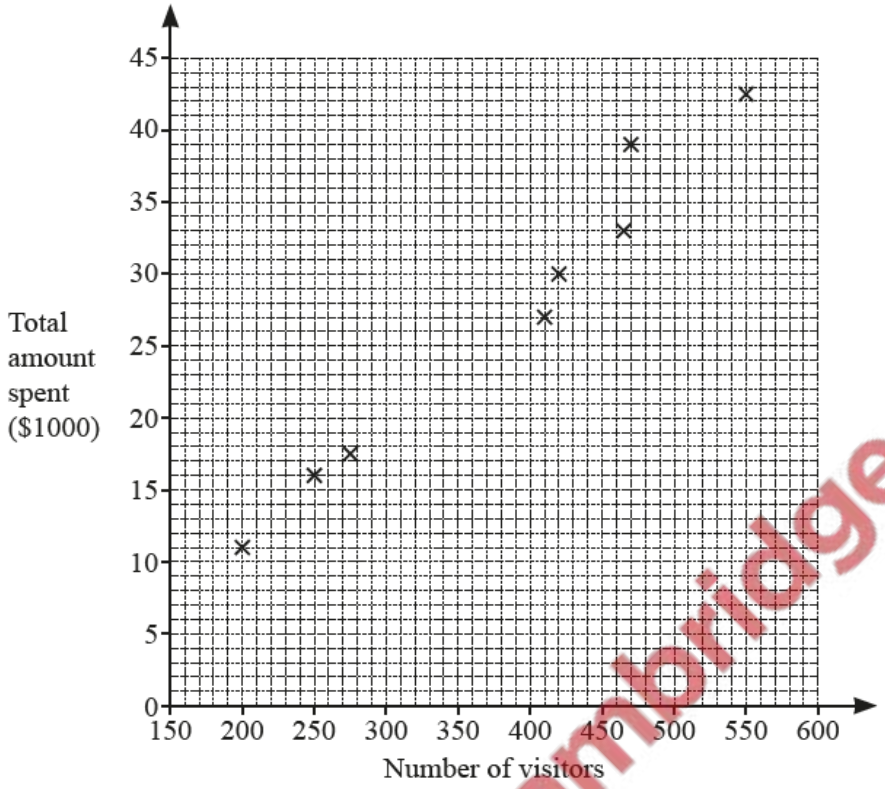
[2]

(b) Find the median.

..... kg [1]

11. June/2022/Paper_23/No.7

The scatter diagram shows the number of visitors and the total amount spent, in thousands of dollars, at a zoo on each of eight days.



(a) On one of the eight days there are 410 visitors.

Find the total amount spent by visitors during this day.

$ ..... [1]

(b) Information for the ninth day is shown in the table.

Number of visitors	175
Total amount spent ($1000)	9

Plot this information on the scatter diagram. [1]

(c) Draw a line of best fit on the scatter diagram. [1]

(d) On the tenth day the total amount spent is $22 000.

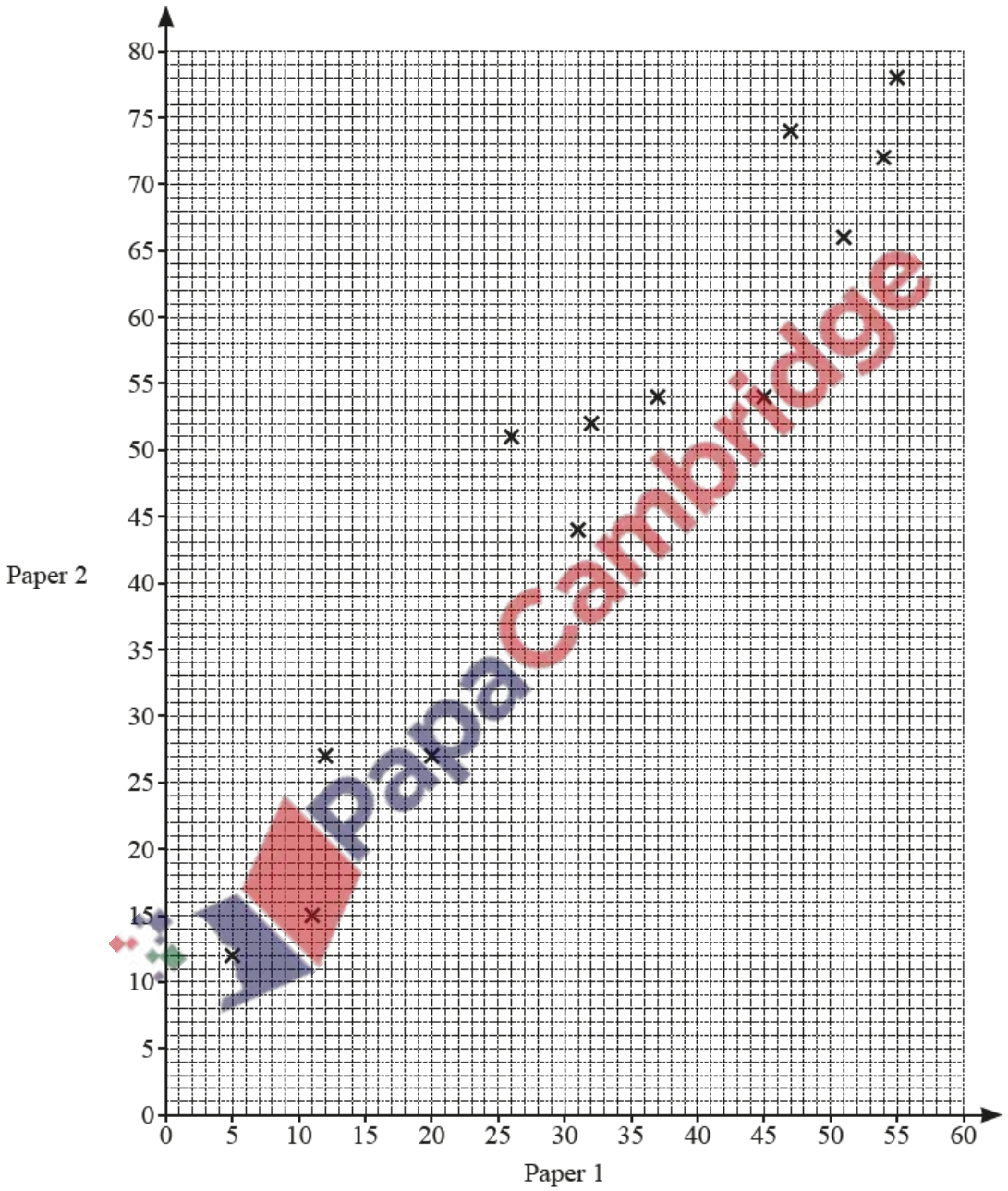
Estimate the number of visitors on this day.

..... [1]

12. June/2022/Paper_31/No.7

(a) A class of 15 students take two tests in science, paper 1 and paper 2.
The scores for each student are shown in the table.

Paper 1	5	11	12	20	26	31	32	37	45	47	51	54	55	23	42
Paper 2	12	15	27	27	51	44	52	54	54	74	66	72	78	30	58



(i) Complete the scatter diagram.
The first thirteen points have been plotted for you. [1]

(ii) What type of correlation is shown in the scatter diagram?

..... [1]

(iii) On the grid, draw a line of best fit. [1]

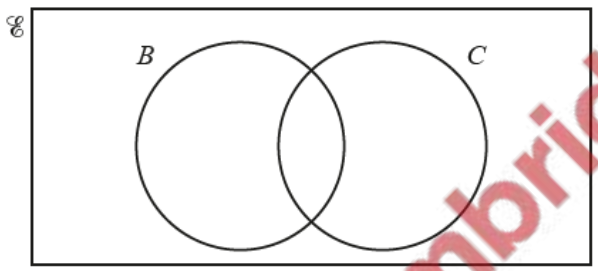
(iv) Another student scores 24 on paper 1.

Use your line of best fit to find an estimate for their score on paper 2.

..... [1]

(b) 140 students choose which subjects they want to study.

- 122 students choose biology (B).
- 55 students choose chemistry (C).
- 2 students do not choose biology and do not choose chemistry.



(i) Complete the Venn diagram.

[2]

(ii) One of these students is picked at random.

Find the probability that this student chooses biology and chemistry.

..... [1]

13. June/2022/Paper_32/No.1(b)

(b) Antonio records the number of chairs his shop hires out on each day for a week.

123 98 116 45 67 165 156

(i) Work out the range.

..... [1]

(ii) Find the median.

..... [2]

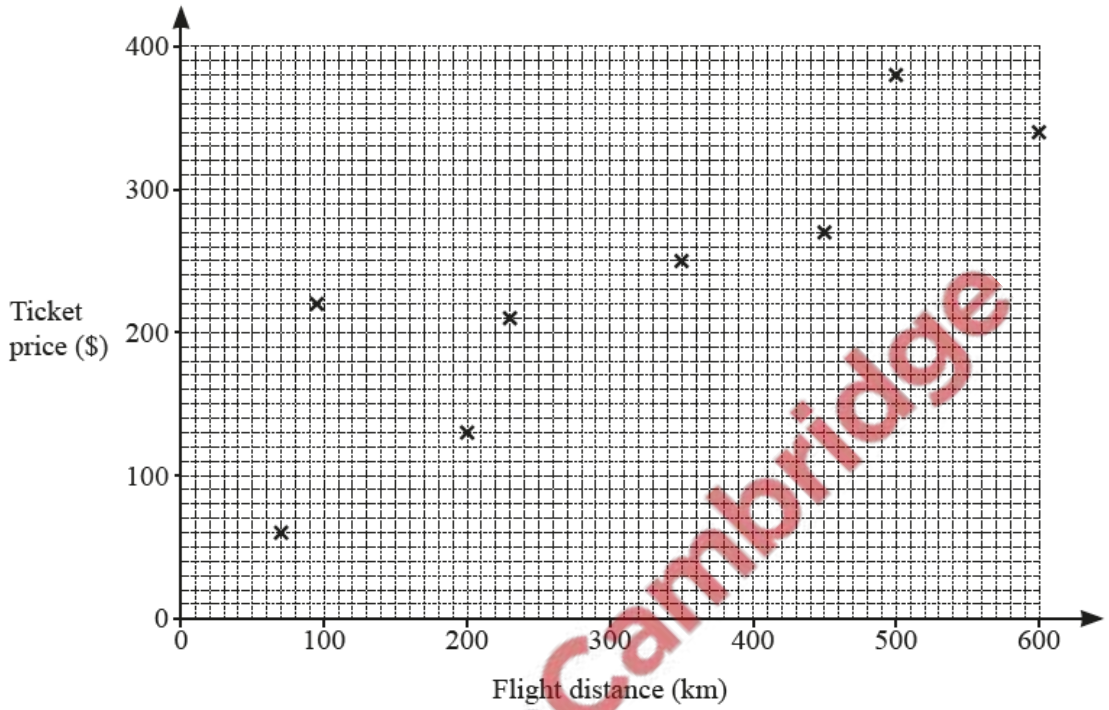
(iii) Calculate the mean.

..... [2]

14. June/2022/Paper_32/No.5

Rebecca records the flight distance and the ticket price for each of her last 12 plane journeys.

Flight distance (km)	95	230	70	500	200	450	600	350	100	275	380	540
Ticket price ($)	220	210	60	380	130	270	340	250	120	170	310	305



(a) Complete the scatter diagram.
The first eight points have been plotted for you. [2]

(b) What type of correlation is shown in the scatter diagram?

..... [1]

(c) On the scatter diagram, put a ring around the point for the journey that has the highest price per kilometre travelled. [1]

(d) On the scatter diagram, draw a line of best fit. [1]

(e) The scale drawing shows two airports, K and L.
The scale is 1 centimetre represents 50 kilometres.

Scale: 1 cm to 50 km

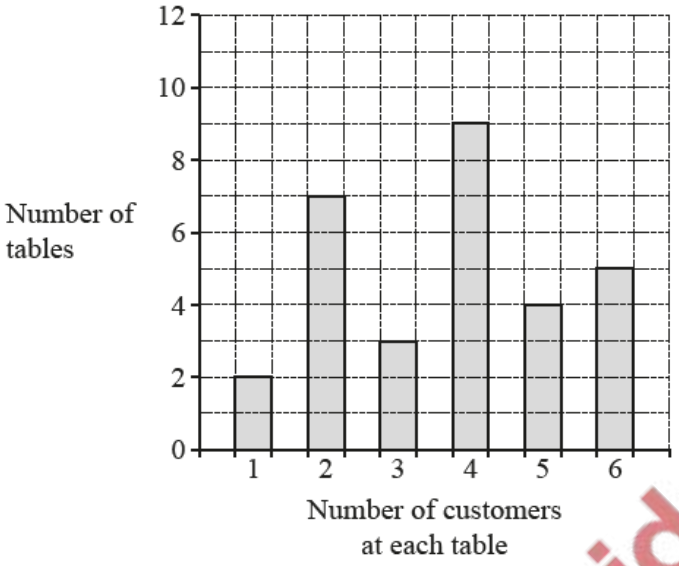
A plane flies in a straight line from K to L.

Use the scale drawing and your line of best fit to find an estimate for the ticket price of the journey from K to L.

$ ..... [3]

15. June/2022/Paper_33/No.6

Maria owns a restaurant with 30 tables.
One day she records the number of customers at each table at 7 pm.
The bar chart shows the results.



(a) **(i)** Write down the mode.

..... [1]

(ii) Find the range.

..... [1]

(iii) Calculate the mean.

..... [3]

(b) On the same day she also recorded the number of customers at each table at 1 pm.
The results are shown in the table.

Number of customers at each table	1	2	3	4	5	6
Number of tables	8	13	5	4	0	0

Write down two comments comparing the results from 7 pm with the results from 1 pm.

1. .....

2. ..... [2]

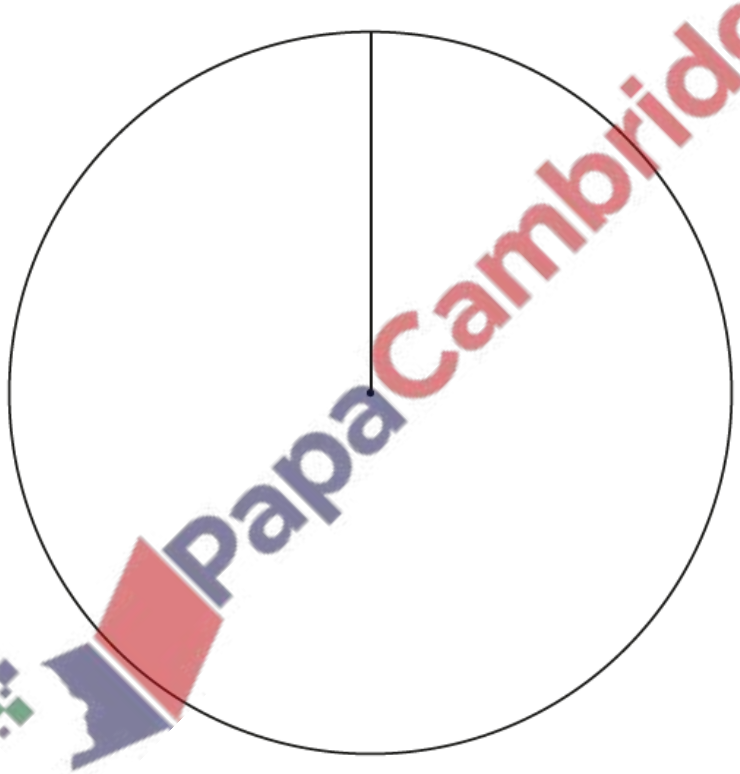
(c) 270 meals are ordered one day at the restaurant.
The table shows the number of each type of meal.

Meal	Number ordered	Pie chart sector angle
Meat	117	
Fish	99	
Vegetarian	54	72°

(i) Complete the table.

[2]

(ii) Complete the pie chart.



[2]

16. June/2022/Paper_41/No.1

(a) The list shows 15 midday temperatures, in degrees Celsius, in Suntown.

17 21 21 18 23 22 25 19

21 17 19 18 21 24 23

(i) Complete the stem-and-leaf diagram to show this information.

1	7
2	

Key: 1|7 represents 17 °C

[2]

(ii) Find the median.

..... °C [1]

(iii) Find the upper quartile.

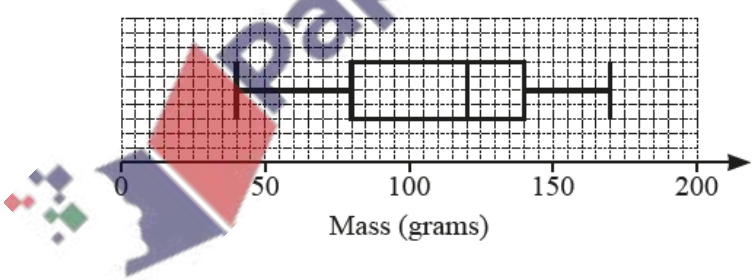
..... °C [1]

(iv) Rahul draws a pie chart to show this information.

Calculate the sector angle for the number of days the temperature is 18 °C.

..... [2]

(b)



The box-and-whisker plot shows information about the masses, in grams, of some apples.

(i) Find the median.

..... g [1]

(ii) Find the range.

..... g [1]

(iii) Find the interquartile range.

..... g [1]

(c) **(i)** The time, t minutes, spent on homework in one week by each of 200 students is recorded. The table shows the results.

Time (t minutes)	$40 < t \leqslant 60$	$60 < t \leqslant 80$	$80 < t \leqslant 90$	$90 < t \leqslant 100$	$100 < t \leqslant 150$
Frequency	6	10	70	84	30

Calculate an estimate of the mean.

..... min [4]

(ii) A new table with different class intervals is completed.

Time (t minutes)	$40 < t \leqslant 90$	$90 < t \leqslant 150$
Frequency	86	114

On a histogram the height of the bar for the $40 < t \leqslant 90$ interval is 17.2 cm.

Calculate the height of the bar for the $90 < t \leqslant 150$ interval.

..... cm [2]

17. June/2022/Paper_42/No.7

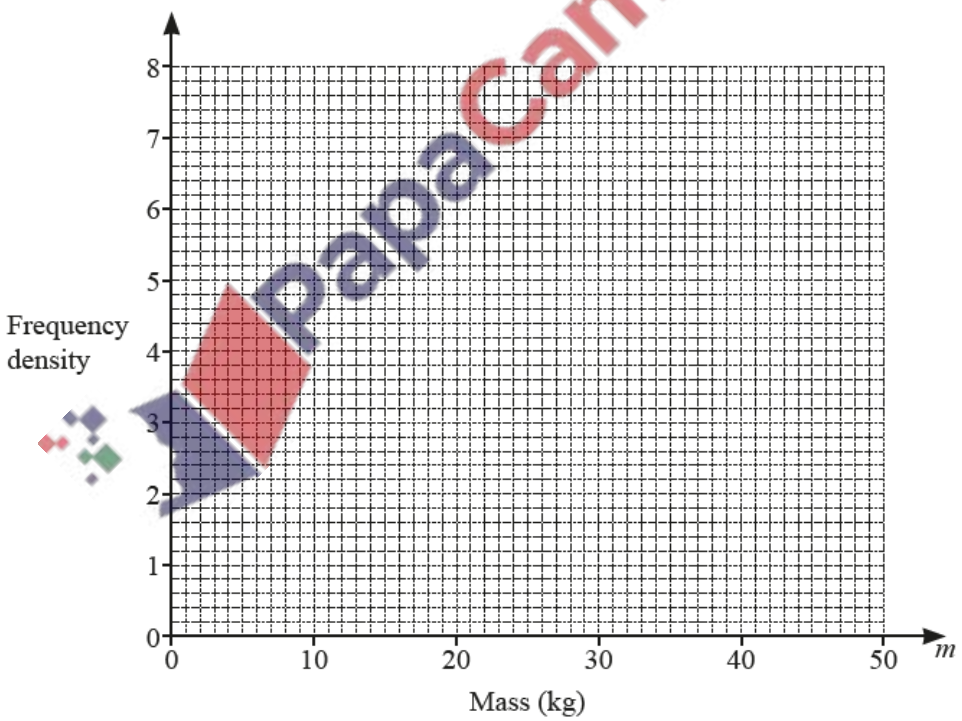
Information about the mass, m kg, of each of 150 children is recorded in the frequency table.

Mass (m kg)	$0 < m \leqslant 10$	$10 < m \leqslant 20$	$20 < m \leqslant 25$	$25 < m \leqslant 40$	$40 < m \leqslant 50$
Frequency	12	38	32	50	18

(a) Calculate an estimate of the mean mass.

..... kg [4]

(b) Draw a histogram to show the information in the table.



[4]

(c) **(i)** Use the frequency table to complete this cumulative frequency table.

Mass (m kg)	$m \leqslant 10$	$m \leqslant 20$	$m \leqslant 25$	$m \leqslant 40$	$m \leqslant 50$
Cumulative frequency					

[2]

(ii) Calculate the percentage of children with a mass greater than 10 kg.

..... % [2]

18. June/2022/Paper_43/No.5

The time, t minutes, taken by each of 80 people to travel to work is recorded.
The table shows information about these times.

Time (t minutes)	$0 < t \leqslant 5$	$5 < t \leqslant 10$	$10 < t \leqslant 20$	$20 < t \leqslant 35$	$35 < t \leqslant 60$
Frequency	3	7	18	28	24

(a) (i) Write down the class interval containing the median time.

..... $< t \leqslant$ ..... [1]

(ii) Calculate an estimate of the mean time.

..... min [4]

(b) (i) One of these 80 people is chosen at random.

Find the probability that this person took longer than 10 minutes to travel to work.
Give your answer as a fraction in its simplest form.

..... [2]

(ii) Two people are chosen at random from those taking 20 minutes or less to travel to work.

Calculate the probability that one of these people took 5 minutes or less and the other took more than 5 minutes.

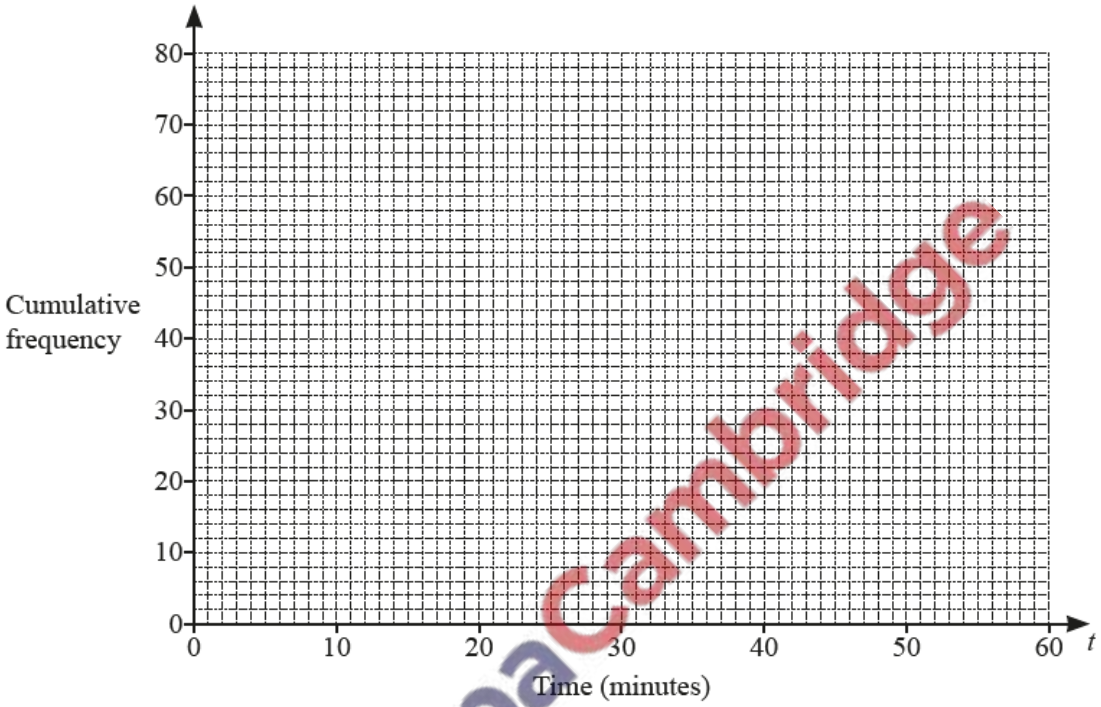
..... [3]

(c) (i) Use the frequency table on page 8 to complete the cumulative frequency table.

Time (t minutes)	$t \leqslant 5$	$t \leqslant 10$	$t \leqslant 20$	$t \leqslant 35$	$t \leqslant 60$
Cumulative frequency	3	10			80

[1]

(ii) On the grid, draw a cumulative frequency diagram to show this information.



[3]

(iii) Find an estimate for the 80th percentile.

..... min [2]

(iv) Find an estimate for the percentage of people who took longer than 45 minutes to travel to work.
Show all your working.

..... % [3]