1. Nov/2023/Paper_0580/11/No.6

(a) Mei writes down five integers.

- The lowest integer is 8.
- The range is 9.
- The median is 15.
- The total of the five integers is 66.
- There is no mode.

Write down the five integers.

..... , ... , ... , ... , ... [3]

(b) Huan writes down four numbers.
The mean of these four numbers is 17.

He writes down a fifth number.
The mean of these five numbers is 20.

Find the fifth number.

..... [3]

2. Nov/2023/Paper_0580/11/No.9, 0580/21/No.2

The stem-and-leaf diagram shows the time, in minutes, it takes each of 15 people to complete a race.

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

Key: 1|6 represents 16 minutes

Find

(a) the mode

..... min [1]

(b) the range

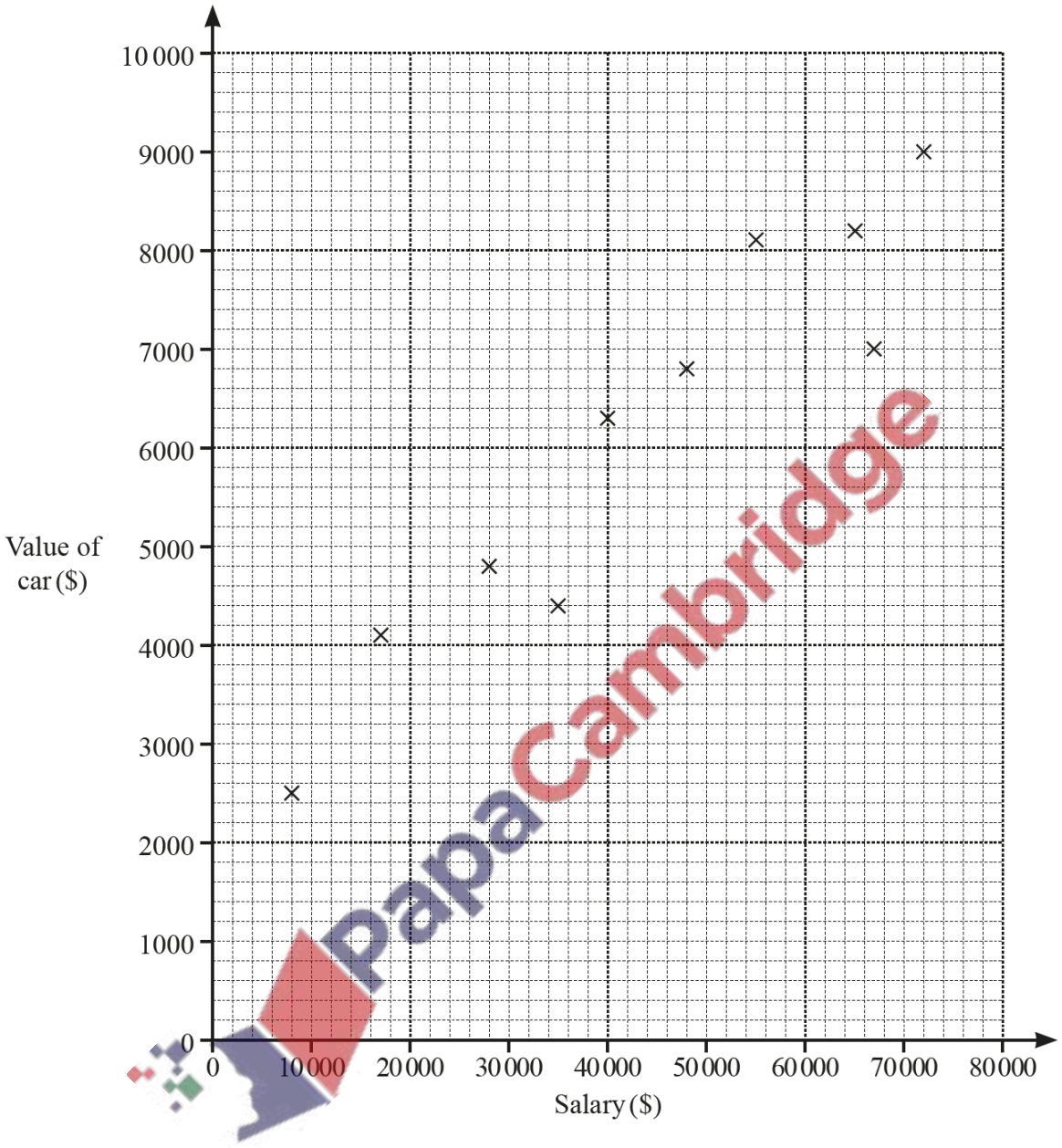
..... min [1]

(c) the median.

..... min [1]

3. Nov/2023/Paper_0580/11/No.13, 0580/21/No.6

For each of 10 people working in an office, the scatter diagram shows their salary and the value of their car.



(a) One of these people has a salary of $28 000.

Find the value of their car.

$ ..... [1]

(b) Another person starts to work in the office.
Their salary is $54 000 and the value of their car is $6100.

Plot this information on the scatter diagram. [1]

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

..... [1]

4. Nov/2023/Paper_0580/12/No.7

For 16 days, Safia records the number of dresses she sells.

24	6	18	14	27	37	9	16
22	17	16	16	24	20	15	32

(a) Complete the stem-and-leaf diagram.

0	
1	
2	
3	

Key: 2|4 represents 24 dresses

[2]

(b) Write down the mode.

..... [1]

(c) Find the median.

..... [1]

5. Nov/2023/Paper_0580/12/No.14

(a) As the age of a car increases, the selling price decreases.

What type of correlation is this?

..... [1]

(b) Write down the type of correlation there is between the height of a driver and the value of their car.

..... [1]

6. Nov/2023/Paper_0580/13/No.6

Jamie records the masses of two samples of oranges, type A and type B.
The stem-and-leaf diagram shows the mass, in grams, of each of 30 oranges of type A.

17	6	8	8	9					
18	0	1	2	2	4	7			
19	1	2	2	3	6	7	8		
20	0	2	5	5	5	6	7	7	8
21	1	5	6	8					

Key: 17|6 represents 176 grams

(a) Complete the table to show the range for type A oranges.

	Type A	Type B
Mean (g)	195.7	215.8
Range (g)		35

[1]

(b) Use the information in the table to write down two comments comparing the masses of type A oranges with the masses of type B oranges.

1. .....

.....

2. .....

.....

[2]

7. Nov/2023/Paper_0580/22/No.23

Some students record their reaction times.
The table shows the results.

Reaction time (t seconds)	$0 < t \leqslant 6$	$6 < t \leqslant 10$
Frequency	18	16

On a histogram, the height of the block for the $0 < t \leqslant 6$ interval is 7.5 cm.

Calculate the height of the block for the $6 < t \leqslant 10$ interval.

..... cm [2]

8. Nov/2023/Paper_0580/23/No.3

The stem-and-leaf diagram shows the heights, in centimetres, of some plants.

10	4 8
11	1 3 4 6
12	2 3 6 9
13	2 6 9

Key: 10|4 represents 10.4 cm

(a) Find the median height.

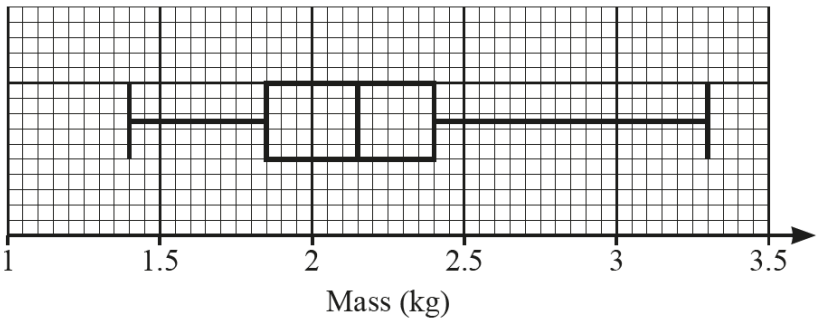
..... cm [1]

(b) Work out the mean height.

..... cm [2]

9. Nov/2023/Paper_0580/23/No.14

The box-and-whisker plot shows information about the mass, in kg, of some parcels.



(a) Find the mass of the heaviest parcel.

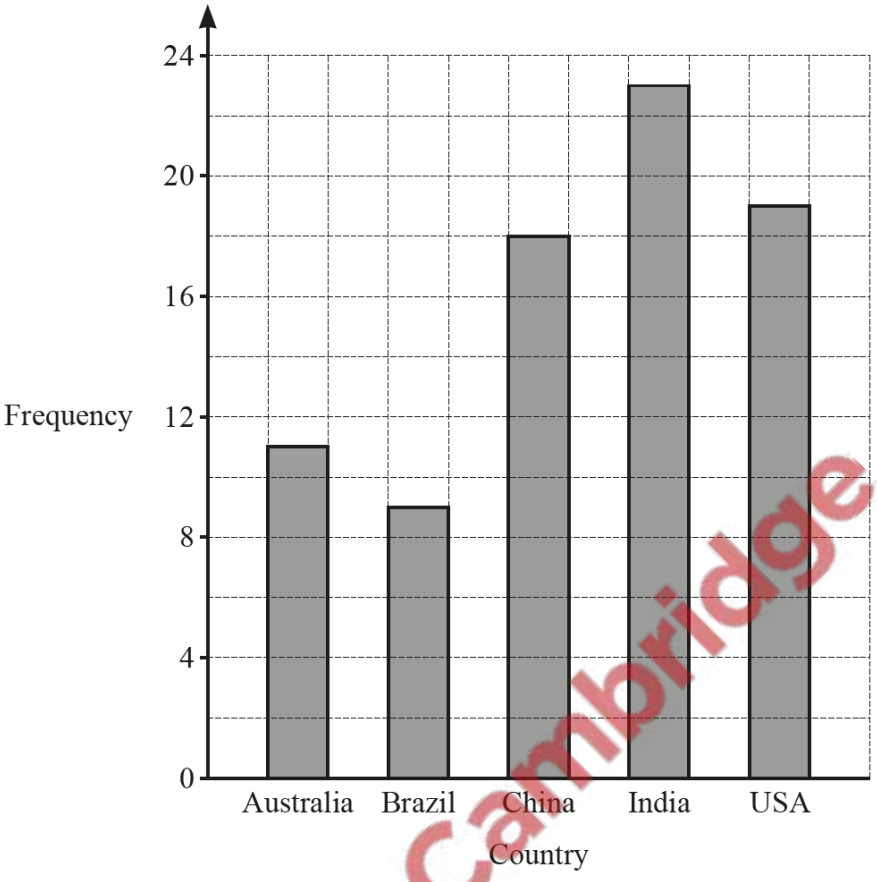
..... kg [1]

(b) Find the interquartile range.

..... kg [1]

10. Nov/2023/Paper_0580/31/No.3

(a) The bar chart shows the country in which each of 80 students live.



(i) How many of these students live in Brazil?

..... [1]

(ii) In which country do the largest number of these students live?

..... [1]

(iii) How many more of these students live in China than live in Australia?

..... [1]

(iv) Find the percentage of these students who live in the USA.

.....% [2]

(b) In Hobart, the temperature at 8 am was −3 °C and the temperature at 3 pm was 7 °C.

(i) Find the difference in the temperatures between 8 am and 3 pm.

..... °C [1]

(ii) The temperature at 10 pm was 12 °C lower than at 3 pm.

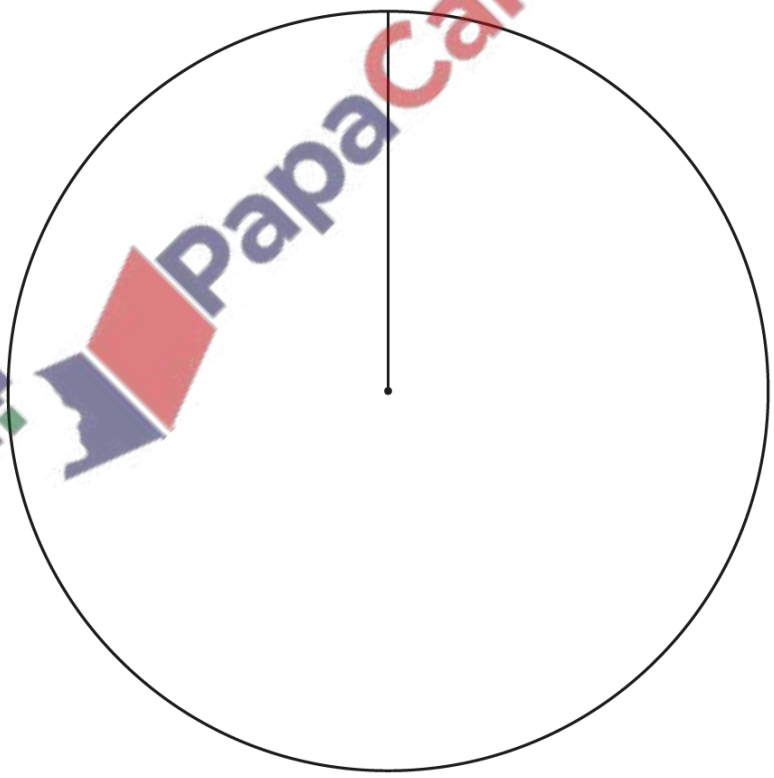
Find the temperature at 10 pm.

..... °C [1]

(c) The table shows the favourite language that each of 80 students studies.

Language	Frequency
French	12
Spanish	26
English	42
Total	80

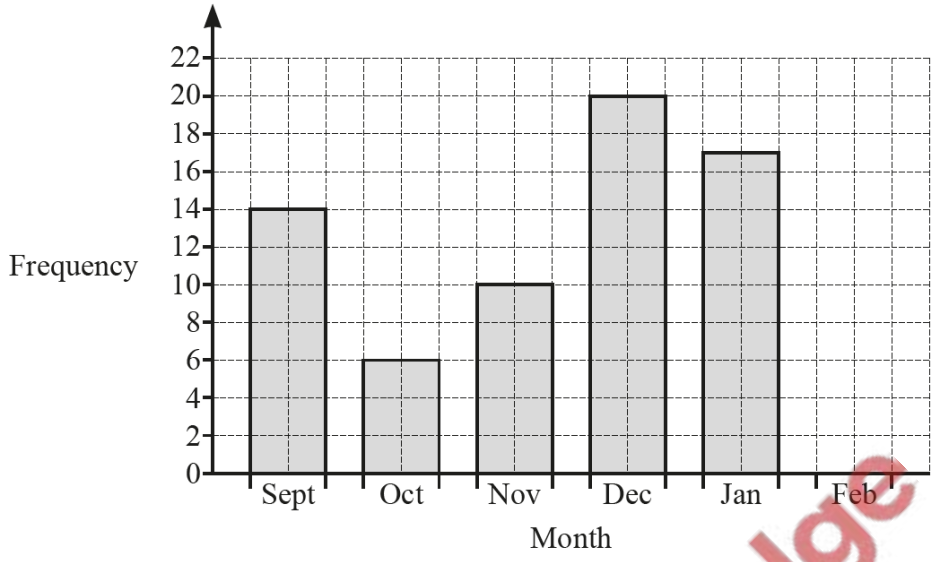
Complete the pie chart to show this information.



[4]

11. Nov/2023/Paper_0580/32/No.1

(a) The bar chart shows the number of goals scored by a team in each of 5 months.



(i) In February, 12 goals are scored.

Complete the bar chart. [1]

(ii) How many more goals were scored in January than in October?

..... [1]

(b) Find the range of the number of goals scored.

..... [1]

(c) **(i)** The team shop is open from 0900 to 1715 on Monday to Friday only.

Work out how long the shop is open each week.
Give your answer in hours and minutes.

..... h ..... min [3]

(ii) Bruno buys a shirt for $36 and a scarf for $12.25 .
He pays with a $50 note.

Work out how much change he receives.

(d)

Ticket prices	
Adult	$35
Child	$20
Senior	$25

(i) Calculate the cost of 150 adult tickets, 70 child tickets and 30 senior tickets.

$ ..... [3]

(ii) Calculate the percentage of these tickets that are senior tickets.

..... % [2]

(e) A game starts at 15 00.
The team plays for 90 minutes.
There is also a break of 15 minutes.

Find the time the game ends.

..... [2]

12. Nov/2023/Paper_0580/32/No.5

Heidi records the colour of each of 500 cars crossing a bridge.
The pie chart shows some of this information.

(a) How many cars are red?

..... [1]

(b) 35 cars are grey.

Show, by calculation, that the sector angle for grey is 25.2°.

[1]

(c) 175 cars are white and 150 cars are black.

Complete the pie chart to show this information.

[2]

(d) Find the probability that a car chosen at random is **not** grey.

Give your answer as a fraction in its simplest form.

..... [2]

(e) Another 320 cars cross the bridge.

How many of these 320 cars are expected to be white?

..... [2]

(f) Heidi also records the number of people in each car crossing the bridge for one hour.

Number of people	Frequency
1	20
2	6
3	0
4	15
5	8
6	12

Calculate the mean.

..... [3]

13. Nov/2023/Paper_0580/33/No.4

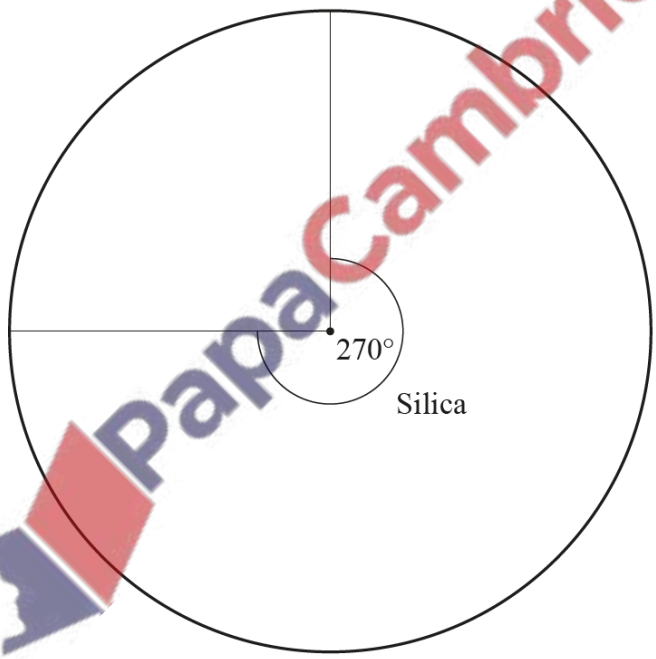
(a) A company makes glass using silica, soda, lime and magnesia.
The table gives information about the proportions used.

	Percentage of total mass	Pie chart sector angle
Silica	75	270°
Soda	15	
Lime and magnesia	10	

(i) Complete the table.

[2]

(ii) Complete the pie chart to show this information.



[1]

(iii) The masses of lime and magnesia used are in the ratio lime : magnesia = 3 : 2.

Find the percentage of the total mass of glass that is magnesia.

.....% [1]

(iv) The company uses 8.25 kg of soda to make some glass.

Work out how many kilograms of silica they use.

(b) The company uses the formula $M = 2.5 \times A \times T$ to find the mass of a sheet of glass.

M is the mass in kilograms.
A is the area in square metres.
T is the thickness in millimetres.

Use the formula to calculate the mass of a rectangular sheet of glass that is 1.9 m long, 0.6 m wide and 8 mm thick.

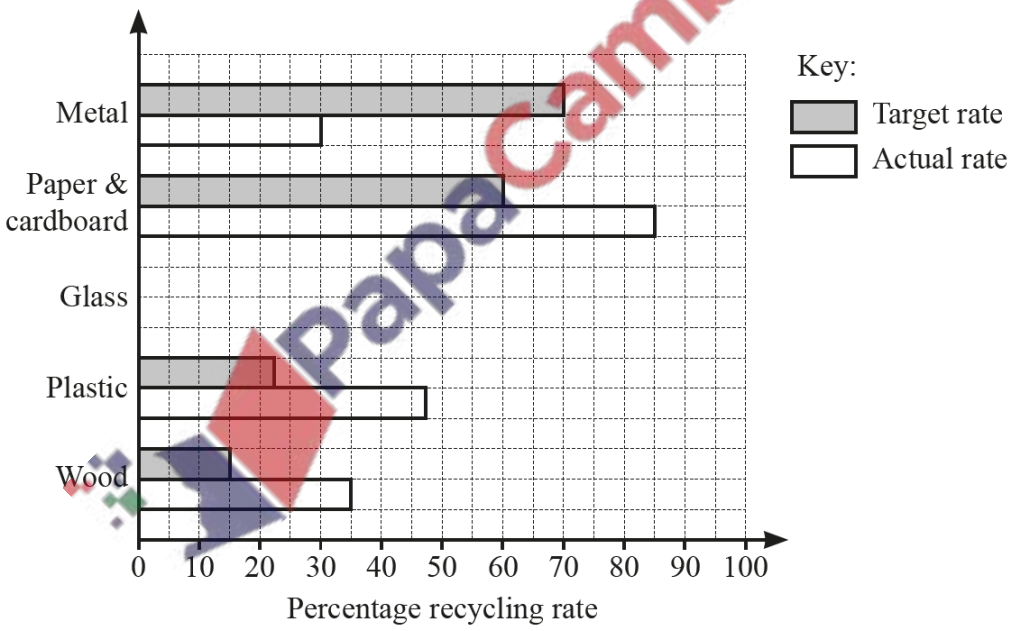
..... kg [2]

(c) In one year, 130 000 000 tonnes of glass were produced worldwide.

Write this number in standard form.

..... [1]

(d) The company sets targets to recycle its waste materials.
The bar chart shows the target rate and the actual rate for some of its recycling.



(i) The target rate for recycling glass was 55%.
The actual rate for recycling glass was 70%.

Complete the bar chart. [2]

(ii) Which materials did the company recycle at more than double their target rate?

..... [2]

14. Nov/2023/Paper_0580/33/No.5

(a) Zena records the number of letters she posts on each of 12 days.

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

(i) Write down the mode.

..... [1]

(ii) Find the median.

..... [2]

(b) Zena posts 6 parcels.

- The lightest parcel has a mass of 4.6 kg.
- The heaviest parcel has a mass of 6.2 kg.
- The other 4 parcels have a mass of 5.01 kg.

Calculate the mean mass of the 6 parcels.

..... kg [3]

(c) Zena pays 105 euros to post a parcel.
The exchange rate is \$1 = 0.84 euros.

Work out the cost in dollars to post the parcel.

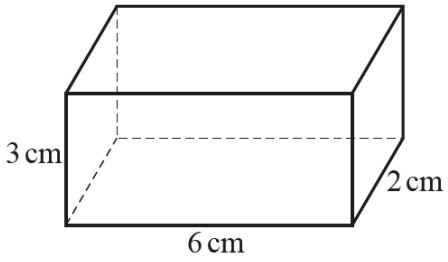
\$ ..... [1]

(d) The cost to post a box increases from \$22.68 to \$44.

Work out the percentage increase in the cost.

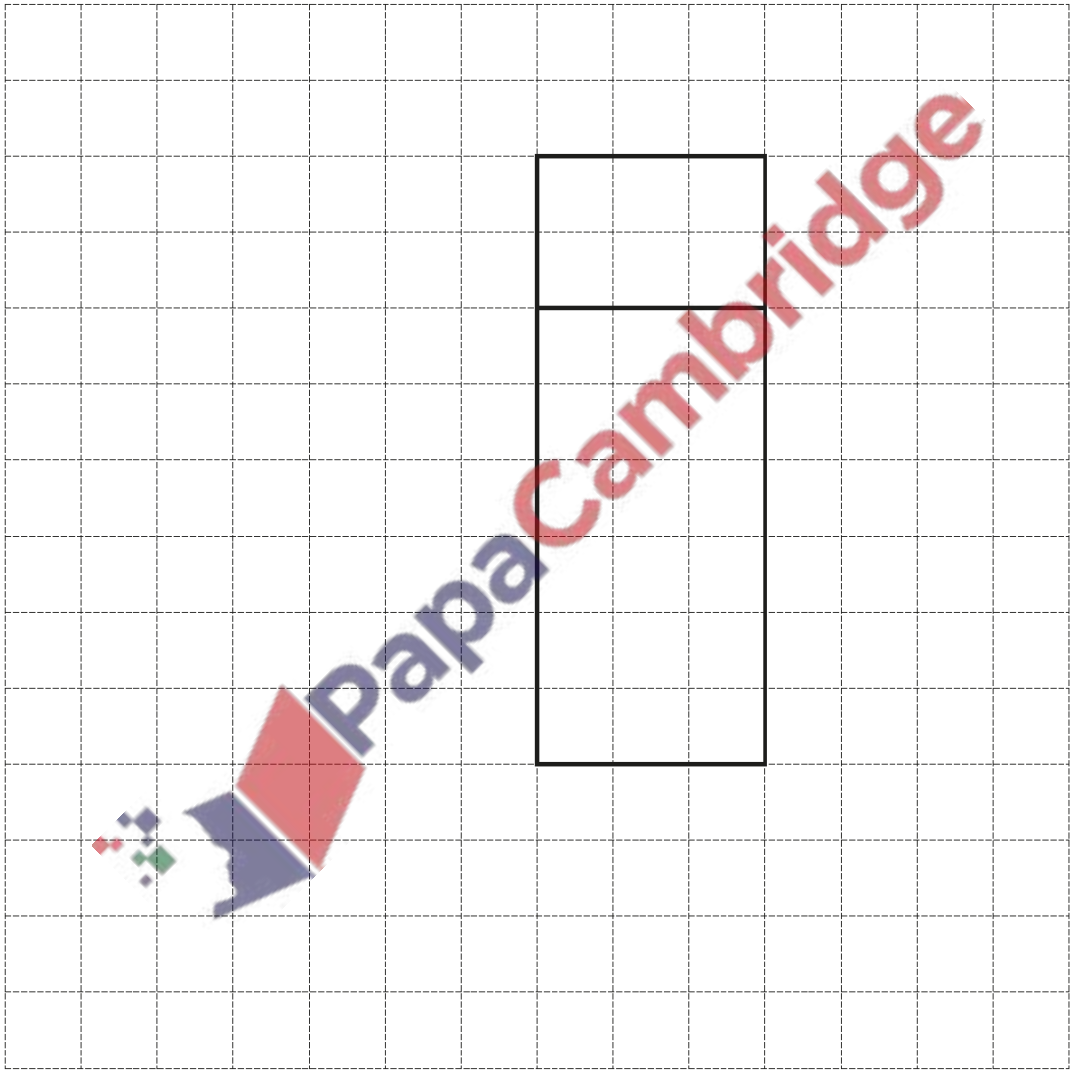
..... % [2]

(e) The diagram shows a parcel in the shape of a cuboid.



NOT TO SCALE

(i) Complete the net of the parcel on the 1 cm^2 grid.
Two faces have been drawn for you.



[2]

(ii) Find the volume of the parcel.

..... cm^3 [1]

15. Nov/2023/Paper_0580/41/No.7

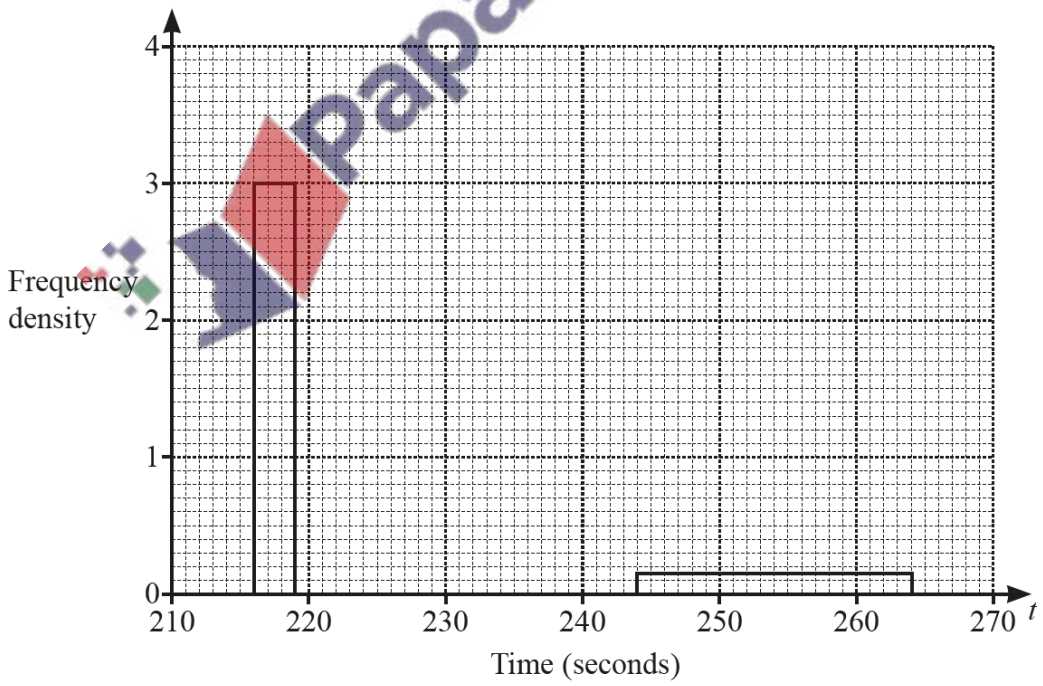
The frequency table shows the time of each of 42 athletes in a race.

Time (t seconds)	Number of athletes
$216 < t \leqslant 219$	9
$219 < t \leqslant 224$	14
$224 < t \leqslant 234$	14
$234 < t \leqslant 244$	2
$244 < t \leqslant 264$	3

(a) Calculate an estimate of the mean time.

..... seconds [4]

(b) Complete the histogram to show the information in the frequency table.
Two of the blocks have been drawn for you.



[3]

16. Nov/2023/Paper_0580/42/No.2

(a) Daisy records her 50 homework marks.
The table shows the results.

Homework mark	15	16	17	18	19	20
Frequency	1	3	19	11	10	6

(i) Write down the range.

..... [1]

(ii) Write down the mode.

..... [1]

(iii) Find the median.

..... [1]

(iv) Calculate the mean.

..... [3]

(b) 21 33 20 25 21 34 22 21 20 30 18

The list shows Ed's scores in 11 tests.

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

1	
2	
3	

Key: 2|5 represents 25

[2]

(ii) Find the median.

..... [1]

(iii) Find the interquartile range.

17. Nov/2023/Paper_0580/43/No.2

The table shows the number of each type of bird seen in a garden on Monday.

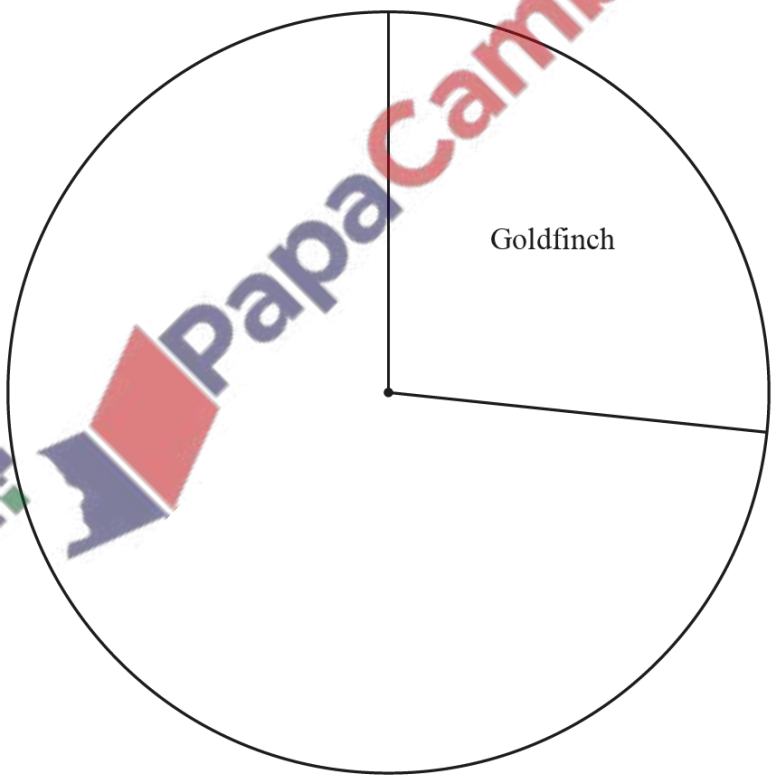
Type of bird	Frequency	Pie chart sector angle
Goldfinch	8	96°
Jay	6	
Starling	11	
Robin	5	

(a) Find the percentage of the birds that are Starlings.

..... % [2]

(b) **(i)** In the table, complete the column for the pie chart sector angle. [2]

(ii) Complete the pie chart to show the information in the table.



[2]

(c) On Tuesday, the number of Goldfinches seen in the garden increased by 262.5%.

Calculate the number of Goldfinches seen on Tuesday.

..... [2]

(d) One of the most common birds in the world is the Red-Billed Quelea which lives in Sub-Saharan Africa.
There are approximately 1500 million of these birds in this area.

(i) Write 1500 million in standard form.

..... [1]

(ii) The land area of Sub-Saharan Africa is approximately 21.2 million square kilometres.

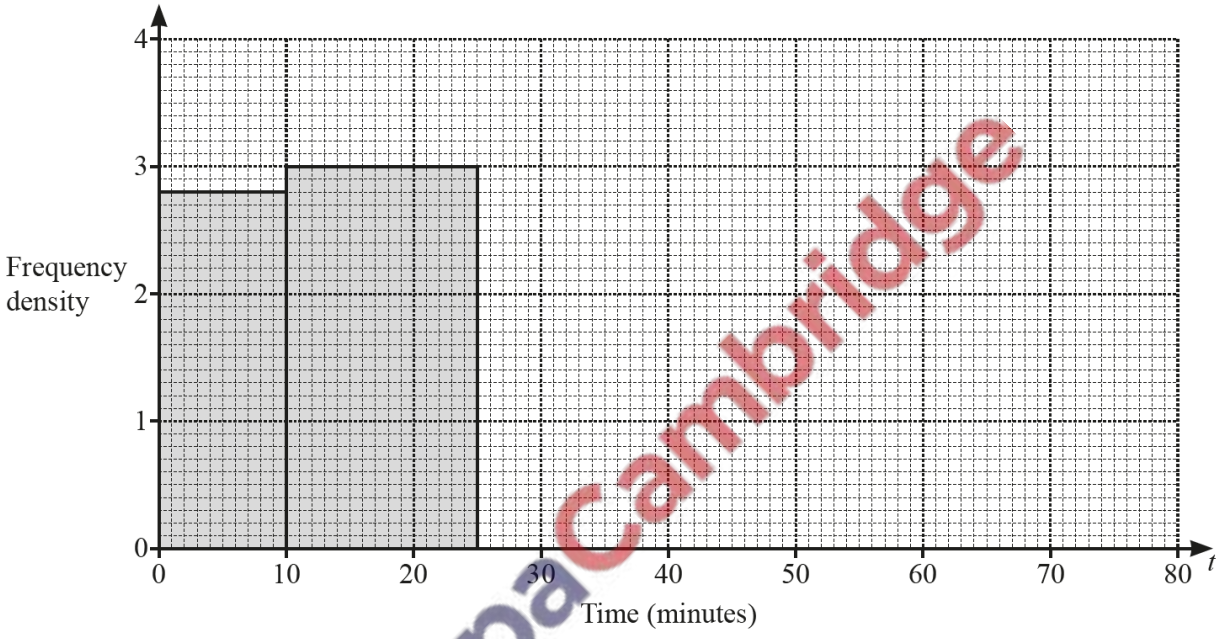
Work out the average number of these birds per square kilometre.

..... birds/km^2 [2]

18. Nov/2023/Paper_0580/43/No.5

Indira records the time taken for workers in her company to travel to work.
The table and the histogram each show part of this information.

Time (t minutes)	$0 < t \leqslant 10$	$10 < t \leqslant 25$	$25 < t \leqslant 40$	$40 < t \leqslant 60$	$60 < t \leqslant 80$
Frequency			57	38	12



(a) Complete the table and the histogram.

[5]

(b) Calculate an estimate of the mean time.

..... min [4]

(c) Rashid says:

'The longest time that any of these workers take to travel to work is 80 minutes.'

Give a reason why Rashid may be wrong.

.....

..... [1]

(d) Indira picks three workers at random from those who take longer than 25 minutes to travel to work.

Calculate the probability that one worker takes 60 minutes or less and the other two each take more than 60 minutes.

..... [4]