

1. Question | 0580 Feb-March 2016 P2 V2 Q16

16 Raj measures the height, h cm, of 70 plants.
The table shows the information.

Height (h cm)	$10 < h \leq 20$	$20 < h \leq 40$	$40 < h \leq 50$	$50 < h \leq 60$	$60 < h \leq 90$
Frequency	7	15	27	13	8

Calculate an estimate of the mean height of the plants.

..... cm [4]

2. Question | 0580 May-June 2016 P2 V2 Q11

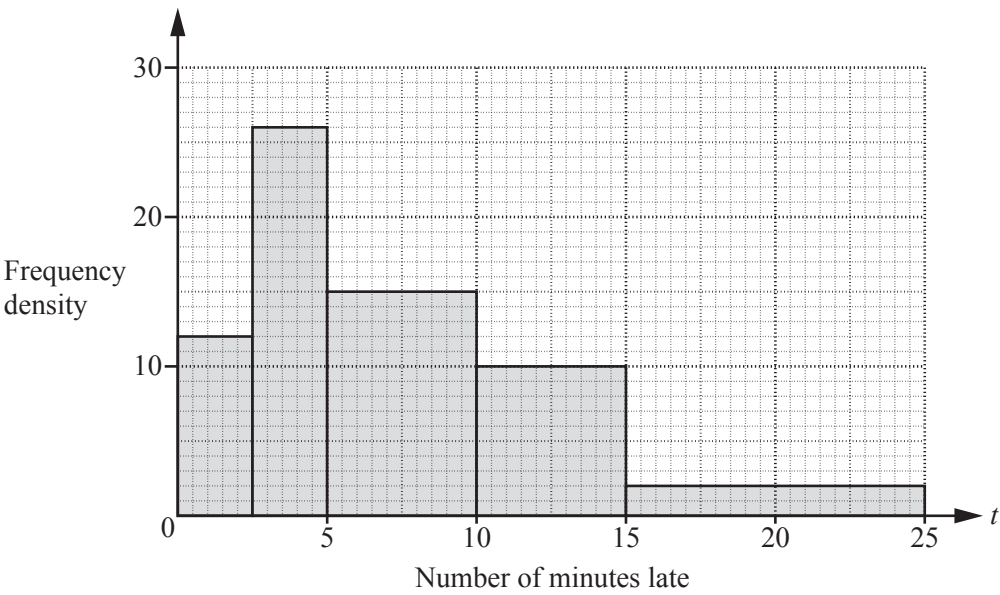
11 Shahruc plays four games of golf.
His four scores have a mean of 75, a mode of 78 and a median of 77.

Work out his four scores.

..... [3]

3. Question | 0580 May-June 2016 P2 V2 Q20

20 Deborah records the number of minutes late, t , for trains arriving at a station. The histogram shows this information.



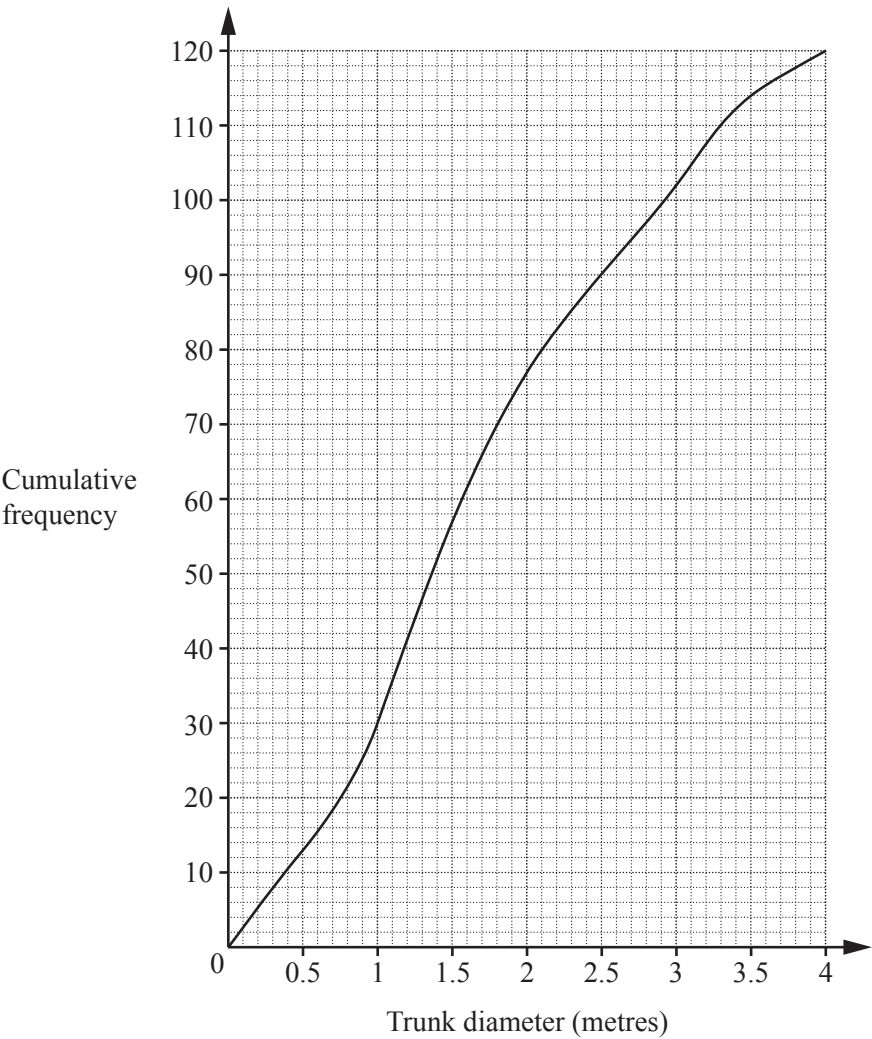
(a) Find the number of trains that Deborah recorded.

..... [2]

(b) Calculate the percentage of the trains recorded that arrived more than 10 minutes late.

..... % [2]

22 The cumulative frequency diagram shows information about the trunk diameter, in metres, of 120 trees.



Find

- (a) the inter-quartile range,
..... m [2]
- (b) the 95th percentile,
..... m [2]
- (c) the number of trees with a trunk diameter greater than 3 metres.
..... [2]

Question 23 is printed on the next page.

- 6
- James is an animal doctor.
The table shows some information about the cats he saw in one week.

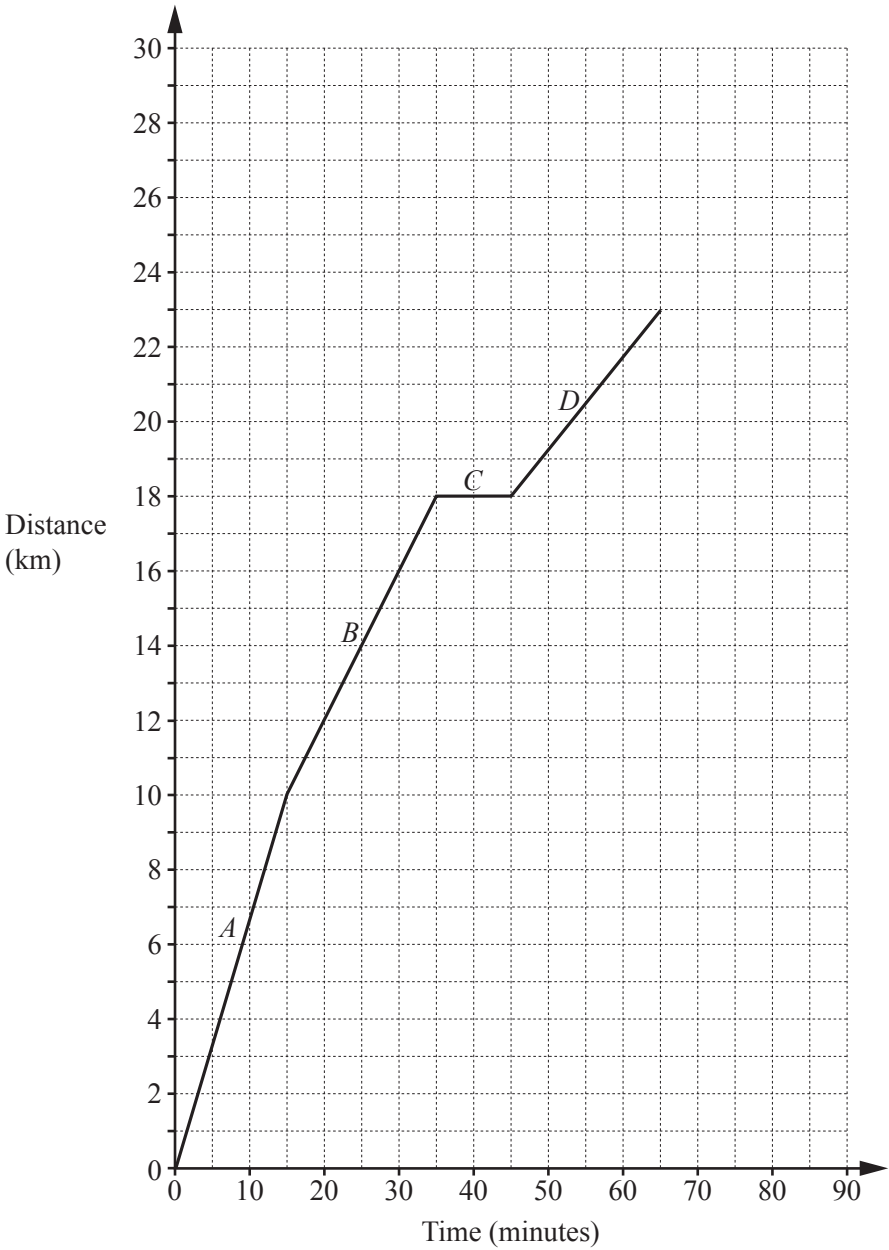
Day	Monday	Tuesday	Wednesday	Thursday	Friday
Number of cats seen	2	4	1	3	2
Mean mass of a cat (kg)	1.9	0.9	2.1	1.8	2

One of the cats James saw had a mass of 4 kg.

On which day did he see this cat?

..... [2]

9



The diagram shows the distance-time graph for the first 65 minutes of a bicycle journey.

- (a) There are four different parts to the journey labelled *A*, *B*, *C* and *D*.

Write down the part of the journey with the fastest speed.

..... [1]

- (b) After the first 65 minutes the bicycle travels at a constant speed of 20 km/h for 15 minutes.

Draw this part of the journey on the diagram.

[1]

7. Question | 0580 Oct-Nov 2016 P2 V3 Q22

22 The table shows some information about the mass, m grams, of 200 bananas.

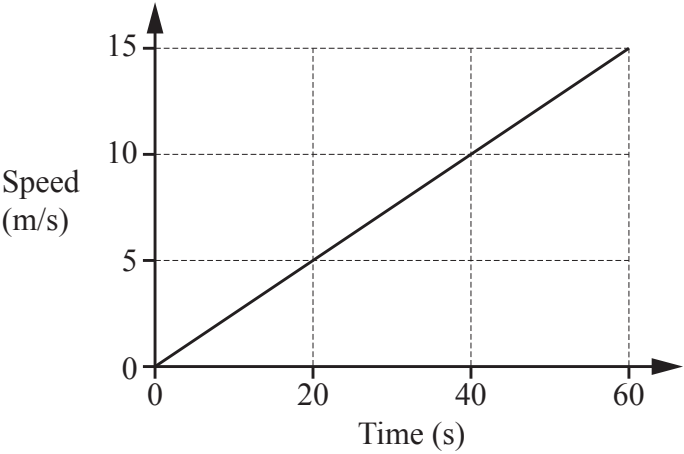
Mass (m grams)	$90 < m \leq 110$	$110 < m \leq 120$	$120 < m \leq 125$	$125 < m \leq 140$
Frequency	40	70	60	30
Height of column in histogram (cm)			6	

Complete the table.

[4]

8. Question | 0580 Feb-March 2017 P2 V2 Q16

16 The speed-time graph shows the first 60 seconds of a train journey.



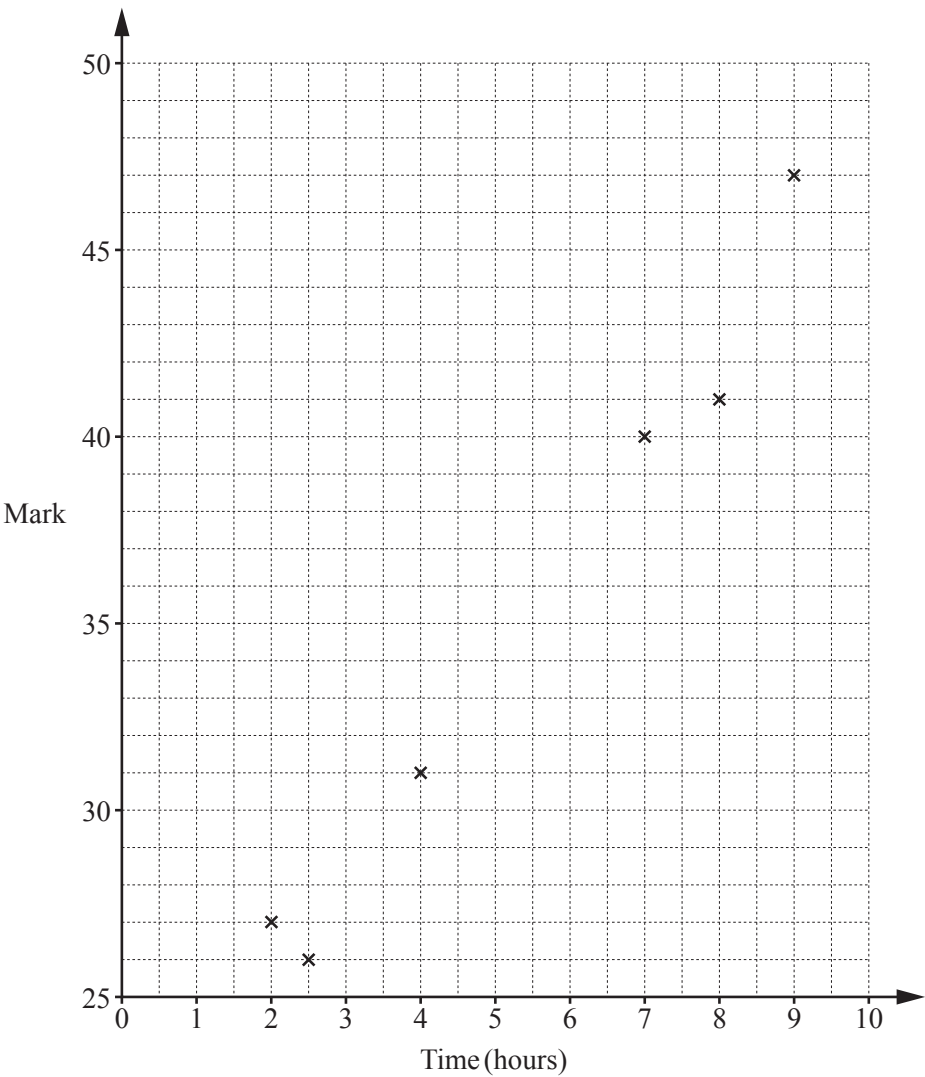
(a) Find the acceleration of the train.

.....m/s² [1]

(b) Calculate the distance the train has travelled in this time.
Give your answer in kilometres.

..... km [3]

- 16** Six students revise for a test.
The scatter diagram shows the time, in hours, each student spent revising and their mark in the test.



- (a)** The data for two more students is shown in the table.

Time (hours)	4.5	6.5
Mark	33	35

Plot these two points on the scatter diagram. [1]

- (b)** What type of correlation is shown on the scatter diagram?

..... [1]

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

- (d)** Another student spent 5.5 hours revising.

Estimate a mark for this student.
..... [1]

10. Question | 0580 Oct-Nov 2017 P2 V1 Q4

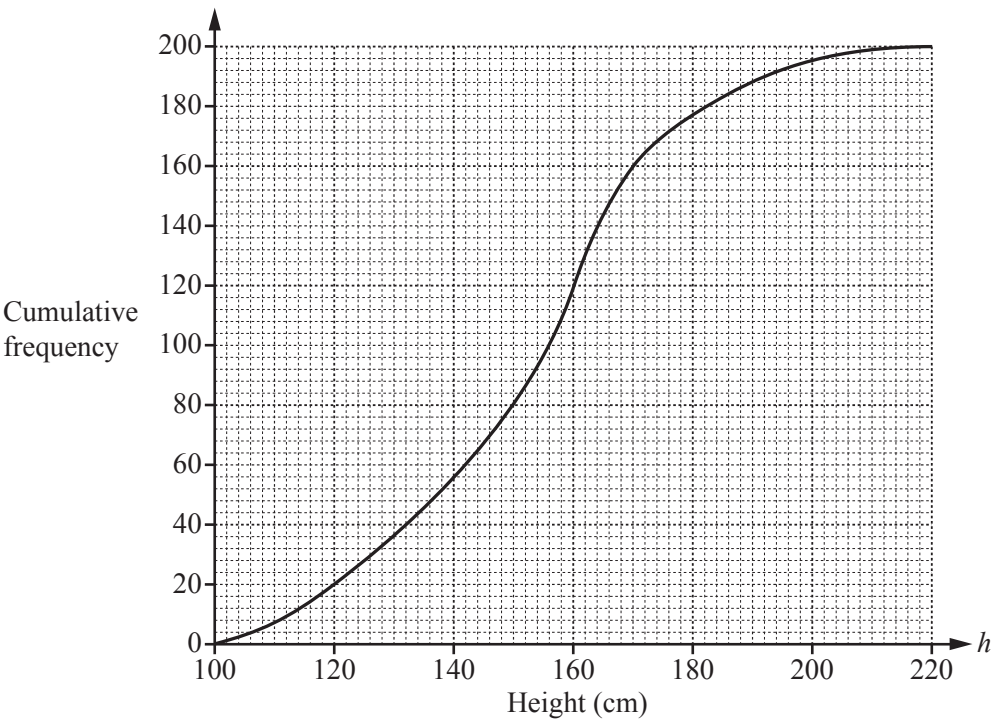
- 4
- Amber’s mean mark on five tests is 80.
Her marks on four of these tests are 68, 81, 74 and 89.

Work out her mark on the fifth test.

..... [2]

11. Question | 0580 Oct-Nov 2017 P2 V1 Q22

- 22 Simon records the heights, h cm, of 200 sunflowers in his garden.
The cumulative frequency diagram shows this information.



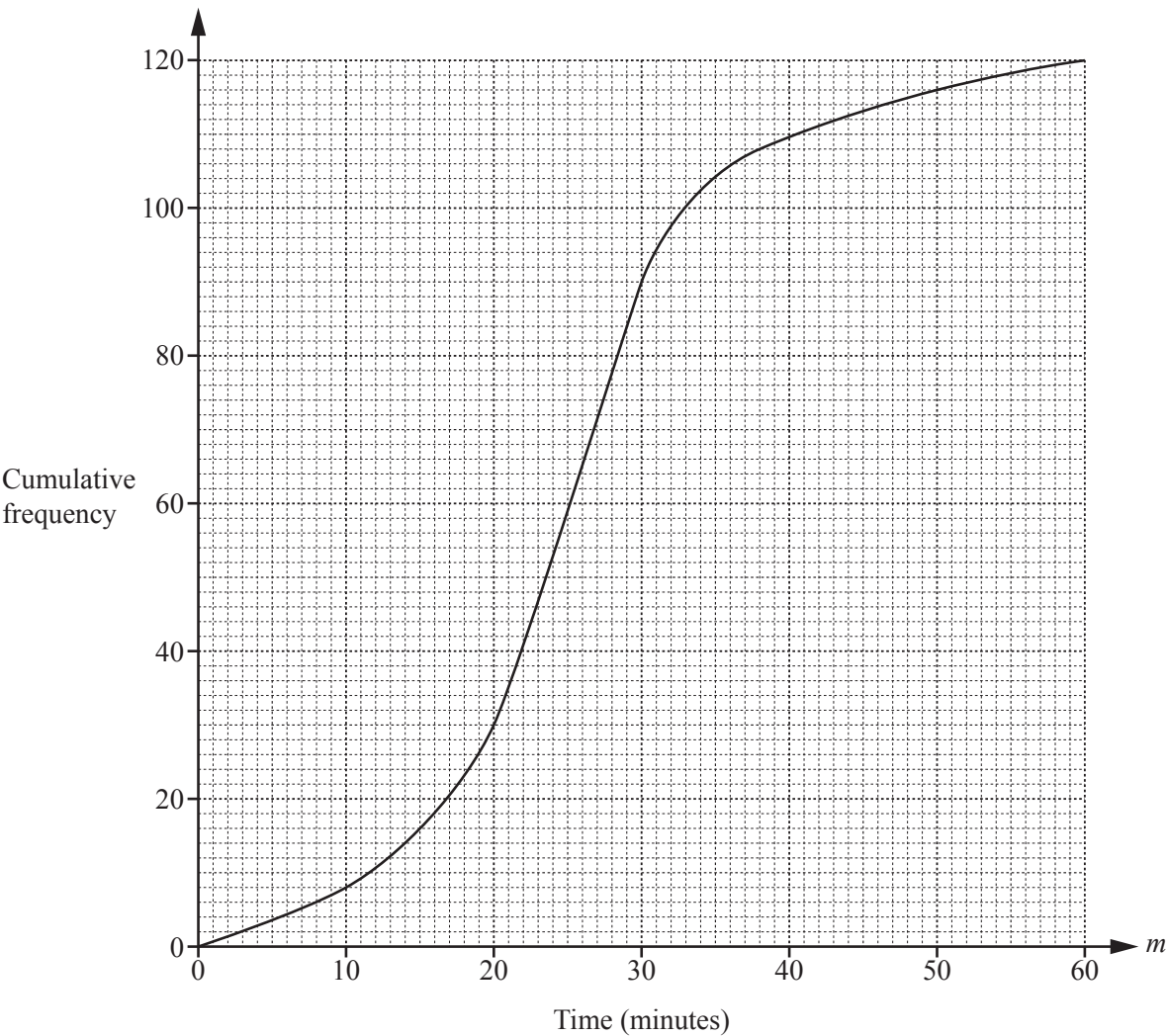
- (a) Find the number of these sunflowers that have a height of more than 160 cm.
..... [2]
- (b) Sue records the heights, h cm, of 200 sunflowers in her garden.
The cumulative frequency table shows this information.

Height (h cm)	Cumulative frequency
$h \leq 100$	0
$h \leq 110$	20
$h \leq 120$	48
$h \leq 130$	100
$h \leq 140$	140
$h \leq 150$	172
$h \leq 160$	188
$h \leq 170$	200

- On the grid above, draw another cumulative frequency diagram to show this information. [3]
- (c) Work out the difference between the median heights of Simon's sunflowers and Sue's sunflowers.
..... cm [2]

12. Question | 0580 May-June 2018 P2 V1 Q18

- 18 The cumulative frequency diagram shows information about the time, m minutes, taken by 120 students to complete some homework.



Use the cumulative frequency diagram to find an estimate of

- (a) the interquartile range,

..... min [2]

- (b) the number of students who took more than 50 minutes to complete the homework.

..... [2]

13. Question | 0580 May-June 2018 P2 V1 Q23

23 40 people were asked how many times they visited the cinema in one month.
The table shows the results.

Number of cinema visits	0	1	2	3	4	5	6	7
Frequency	5	5	6	6	7	3	6	2

(a) (i) Find the mode.

..... [1]

(ii) Calculate the mean.

..... [3]

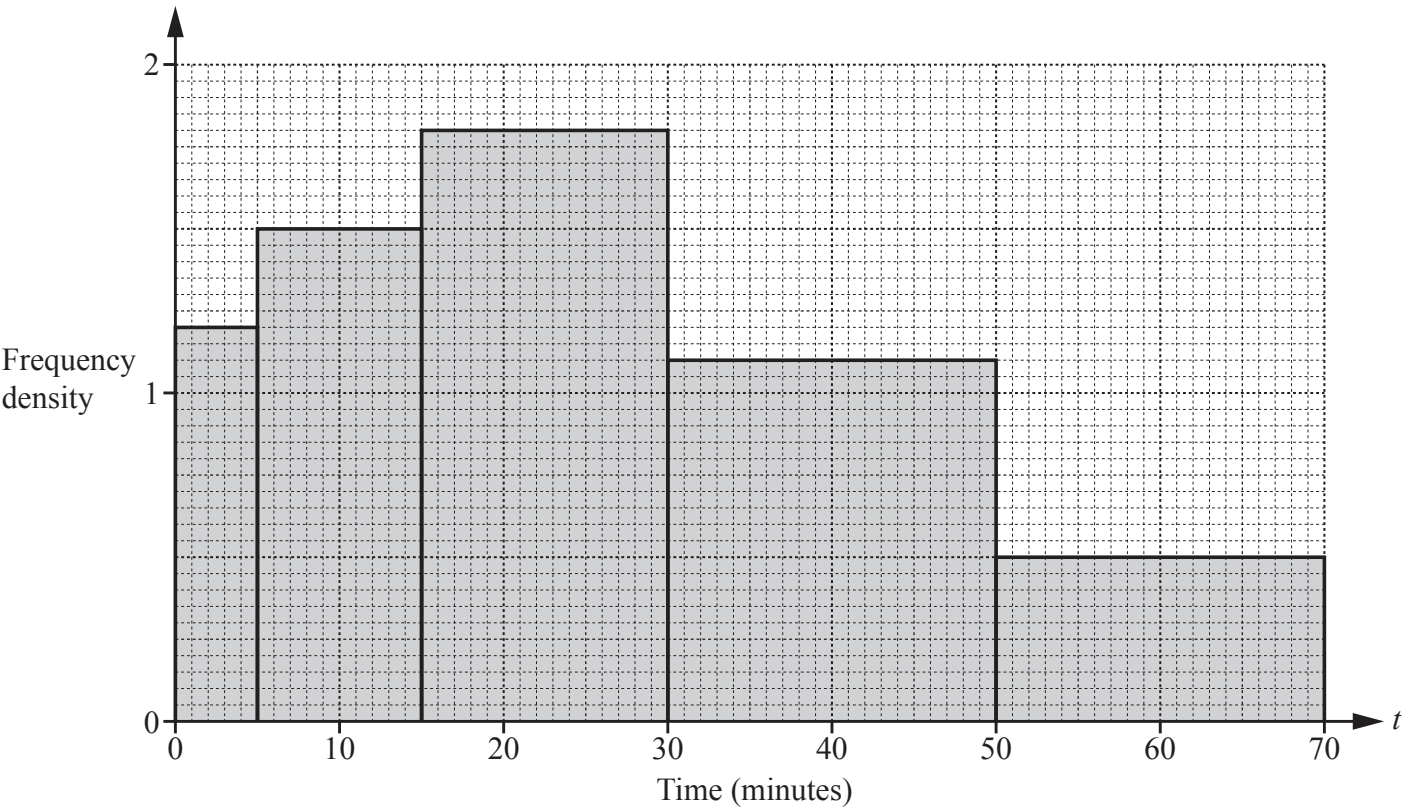
(b) Omar wants to show the information from the table in a pie chart.

Calculate the sector angle for the people who visited the cinema 5 times.

..... [2]

Question 24 is printed on the next page.

13 The histogram shows information about the time, t minutes, spent in a shop by each of 80 people.

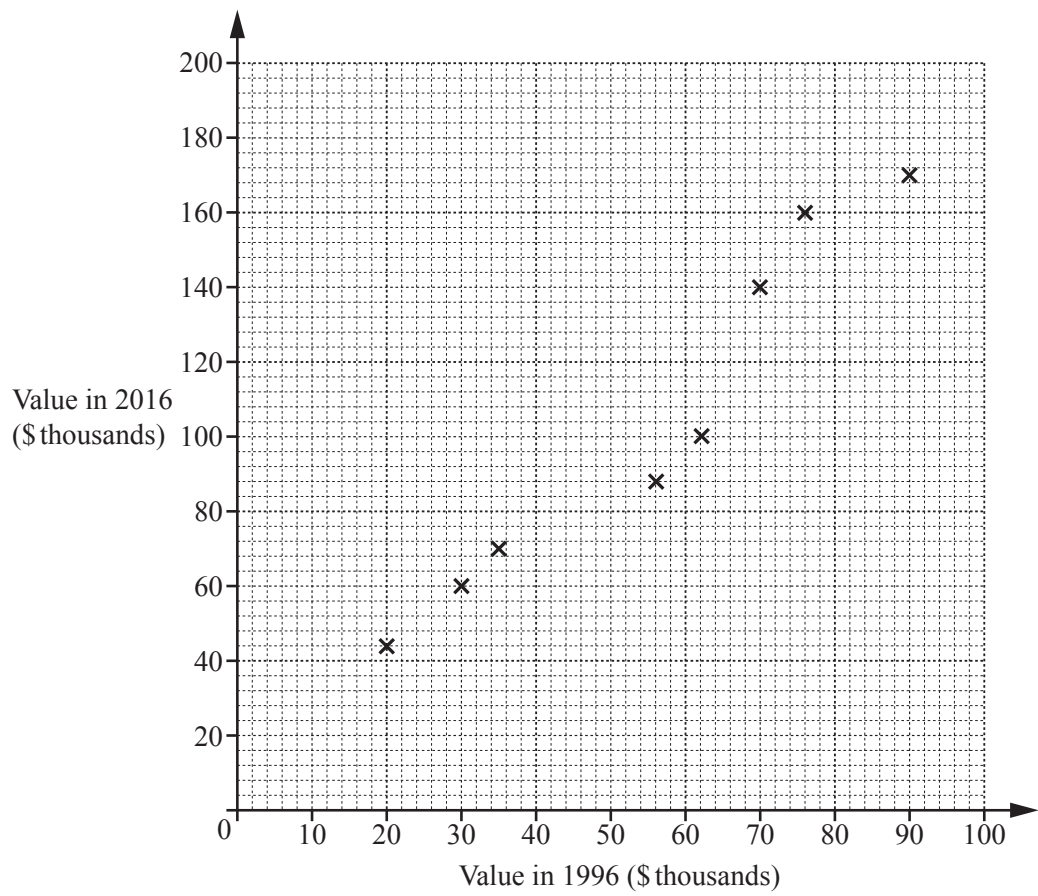


Complete the frequency table.

Time (t minutes)	$0 < t \leq 5$	$5 < t \leq 15$	$15 < t \leq 30$	$30 < t \leq 50$	$50 < t \leq 70$
Number of people	6		27		10

15. Question | 0580 May-June 2018 P2 V2 Q21

21 The scatter diagram shows the value, in thousands of dollars, of eight houses in 1996 and the value of the same houses in 2016.



(a) One of these eight houses had a value of \$70 000 in 1996.

Write down the value of this house in 2016.

\$ [1]

(b) The values of two more houses are shown in the table.

Value in 1996 (\$ thousands)	40	80
Value in 2016 (\$ thousands)	80	150

On the scatter diagram, plot these values. [1]

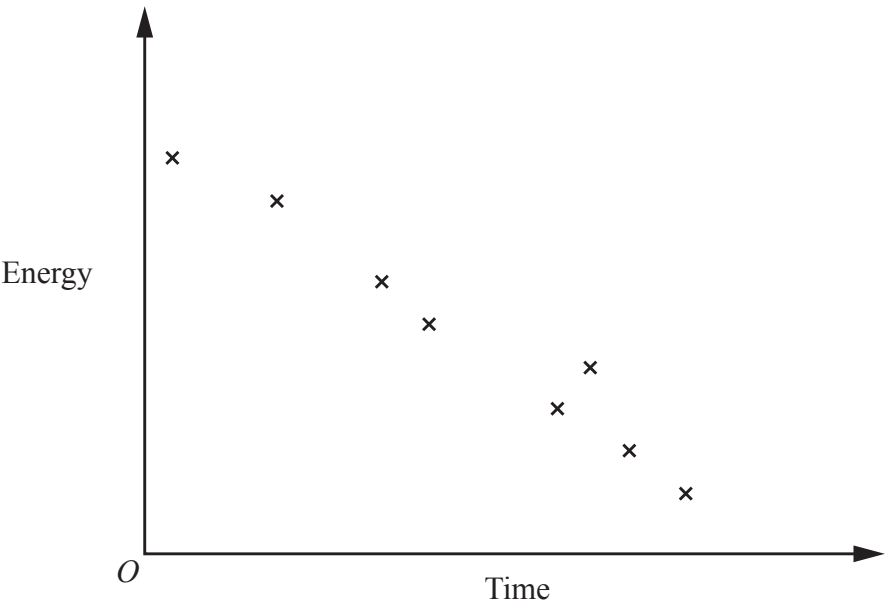
(c) On the scatter diagram, draw a line of best fit. [1]

(d) Another house had a value of \$50 000 in 1996.

Find an estimate of the value of this house in 2016.

\$ [1]

3



What type of correlation does the scatter diagram show?

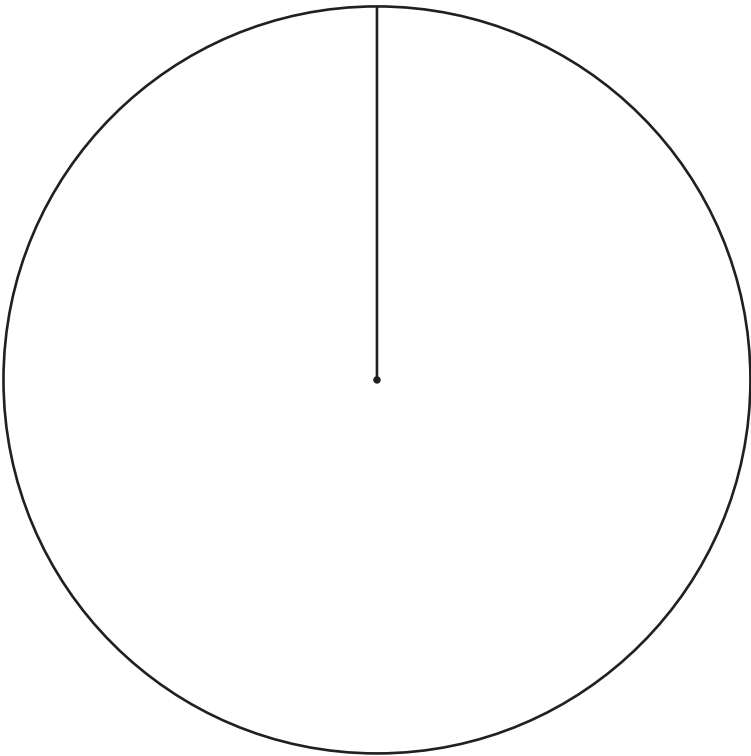
.....[1]

17. Question | 0580 Oct-Nov 2018 P2 V2 Q18

- 18** 120 students choose what they want to do when they leave school.
Their choices are shown in the table.

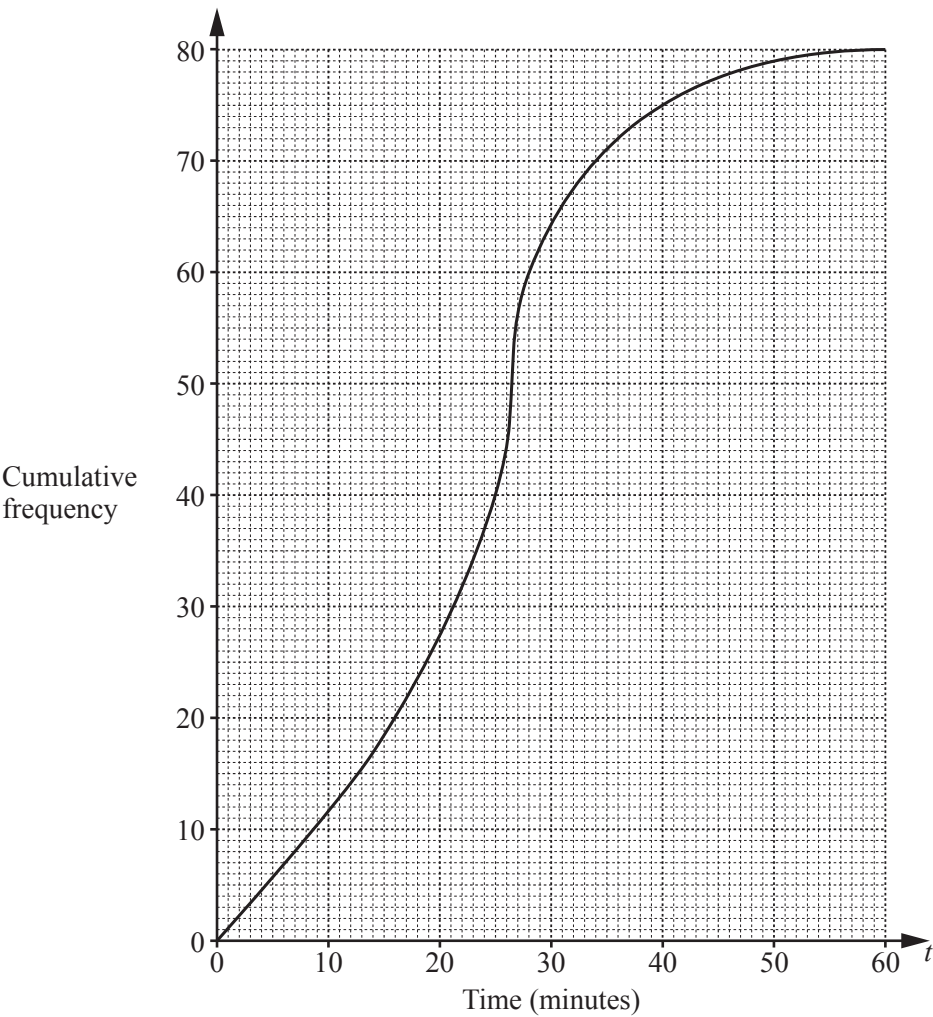
Choice	Number of students
University	57
Training	45
Work	18

Complete the pie chart to show this information.
Label each sector clearly.



18. Question | 0580 Oct-Nov 2018 P2 V2 Q24

- 24 The time, t minutes, 80 students each spend completing their homework is recorded. The cumulative frequency diagram shows the results.



Use the cumulative frequency diagram to find an estimate of

- (a) the median,
..... min [1]
- (b) the interquartile range,
..... min [2]
- (c) the number of students who spend more than 40 minutes completing their homework.
..... [2]

Question 25 is printed on the next page.

18 The table shows the number of people in different age groups at a cinema.

Age (y years)	$15 < y \leq 25$	$25 < y \leq 30$	$30 < y \leq 50$	$50 < y \leq 80$
Number of people	35	32	44	12

Dexter draws a histogram to show this information.
The height of the bar he draws for the group $15 < y \leq 25$ is 7 cm.

Calculate the height of each of the remaining bars.

$25 < y \leq 30$ cm

$30 < y \leq 50$ cm

$50 < y \leq 80$ cm [3]

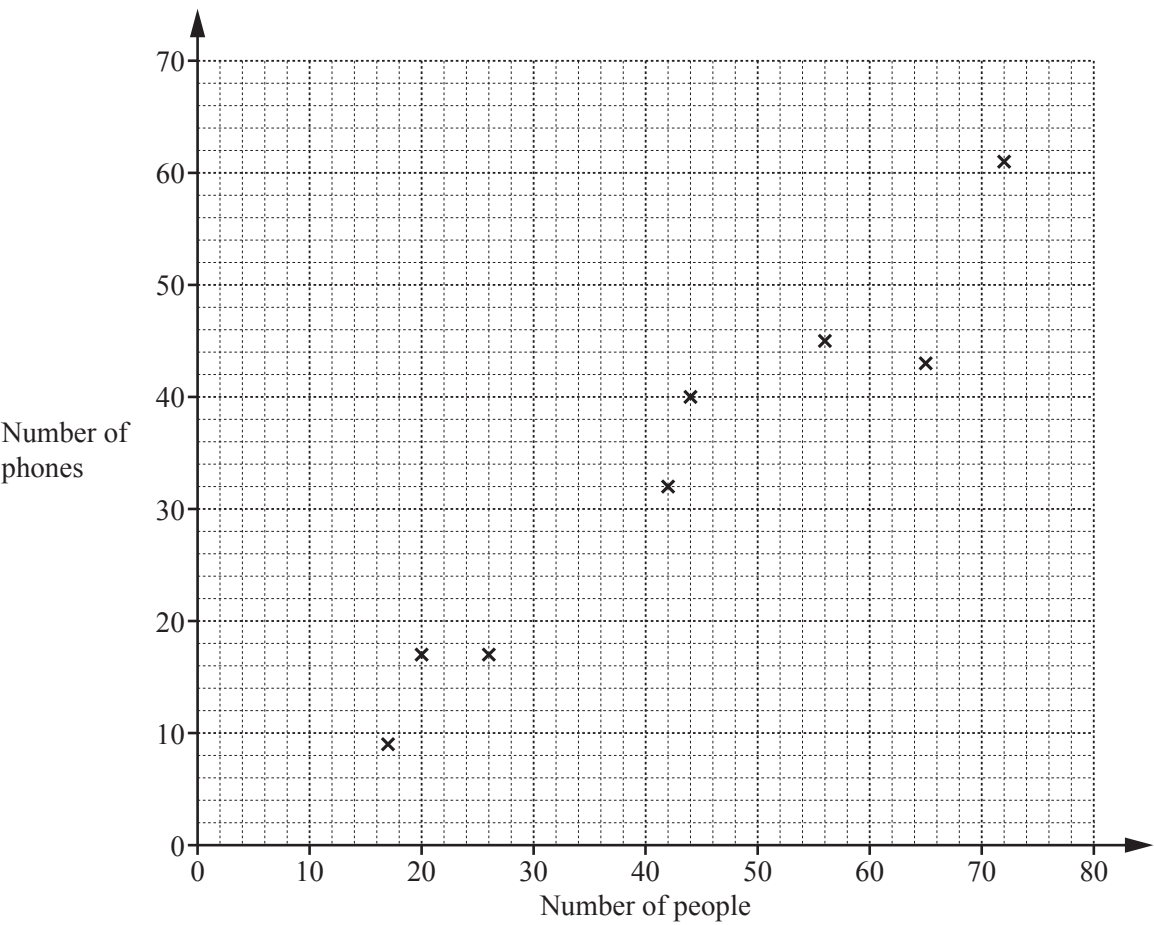
4 The table shows the different methods of travel for 20 people going to work.

Method of travel	Frequency
Car	10
Walk	5
Bike	3
Bus	2

Which type of average, mean, median or mode, can be used for this information?

..... [1]

8 The scatter diagram shows the number of people and the number of phones in each of 8 buildings.



(a) One of the buildings contains 42 people.

Write down the number of phones in this building.

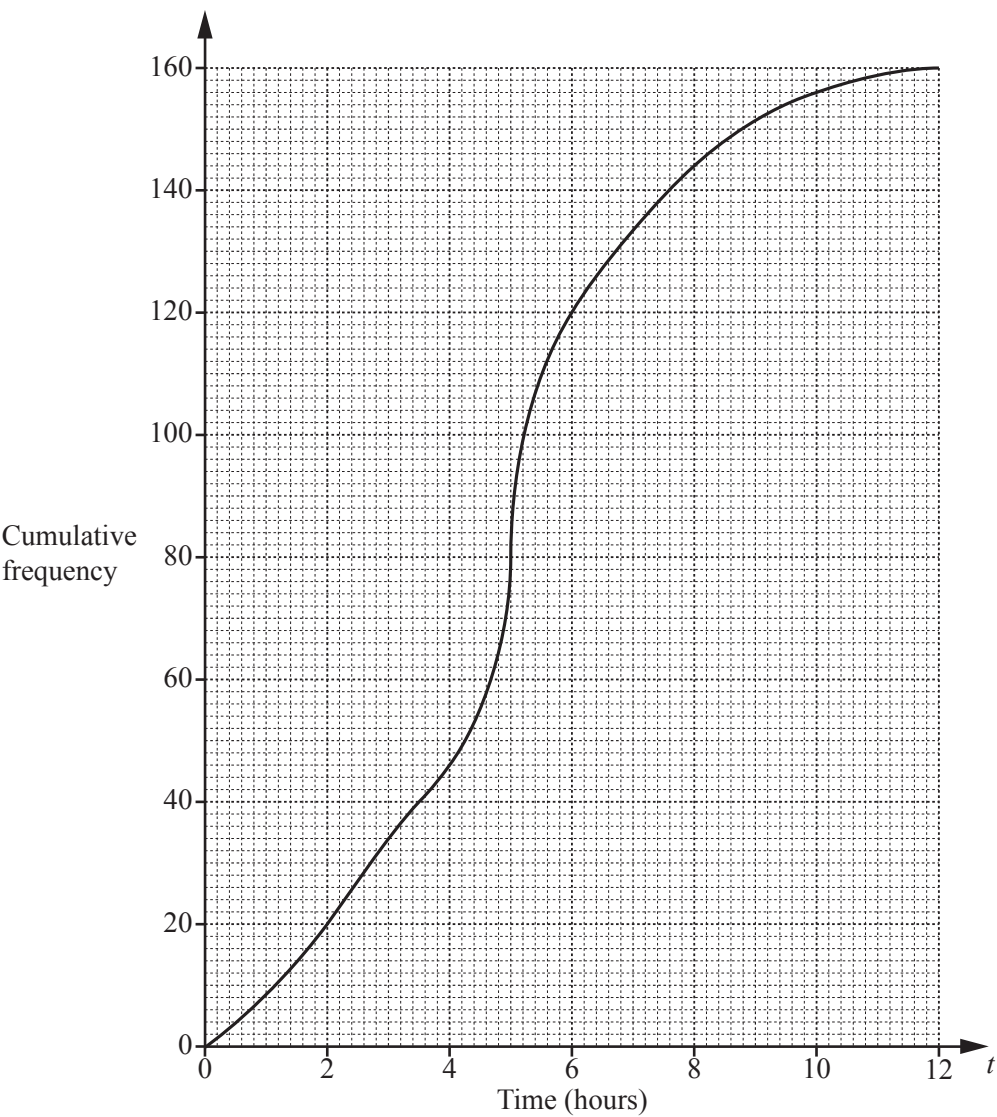
..... [1]

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

..... [1]

22. Question | 0580 May-June 2019 P2 V3 Q23

- 23 160 students record the amount of time, t hours, they each spend playing computer games in a week. This information is shown in the cumulative frequency diagram.



- (a) Use the diagram to find an estimate of
- (i) the median,
..... hours [1]
- (ii) the interquartile range.
..... hours [2]

- (b) Use the diagram to complete this frequency table.

Time (t hours)	$0 < t \leq 2$	$2 < t \leq 4$	$4 < t \leq 6$	$6 < t \leq 8$	$8 < t \leq 10$	$10 < t \leq 12$
Frequency	20			24	12	4

23. Question | 0580 Oct-Nov 2019 P2 V2 Q5

5 The mass, correct to the nearest kilogram, of each of 11 parcels is shown below.

24 23 23 26 25 27 18 96 16 17 32

(a) Find the mode.

..... kg [1]

(b) Give a reason why the mean would be an unsuitable average to use.

..... [1]

24. Question | 0580 Oct-Nov 2019 P2 V2 Q6

6 The table shows how children in Ivan’s class travel to school.

Travel to school	Number of children
Walk	12
Car	7
Bicycle	9
Bus	4

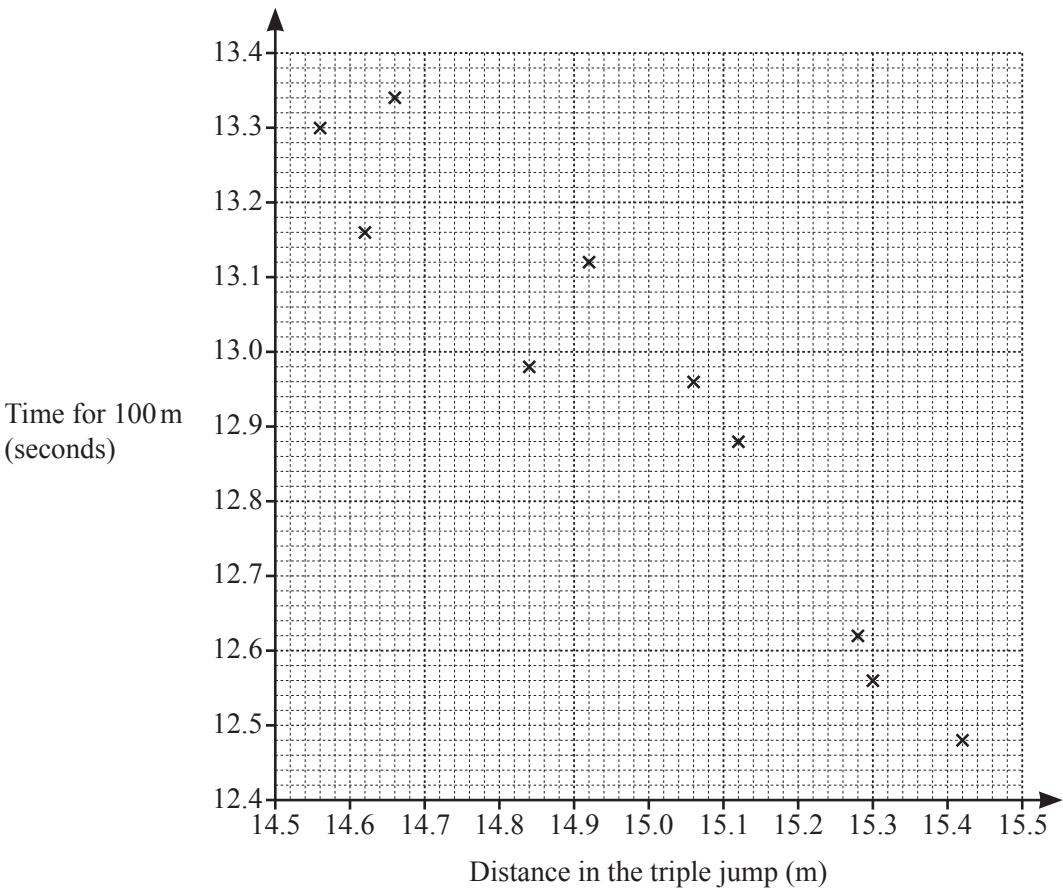
Ivan wants to draw a pie chart to show this information.

Find the sector angle for children who walk to school.

..... [2]

25. Question | 0580 Oct-Nov 2019 P2 V3 Q16

- 16 Ten athletes compete in both the 100 metre race and the triple jump. Their results are shown in the scatter diagram.



- (a) One of these athletes jumps 15.12 m in the triple jump.

Write down his time for the 100 metre race.

..... s [1]

- (b) The values for two other athletes are shown in the table.

Distance in the triple jump (m)	14.74	15.2
Time for 100 m (seconds)	13.2	12.76

On the scatter diagram, plot these points. [1]

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

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

..... [1]

26. Question | 0580 Oct-Nov 2019 P2 V3 Q23

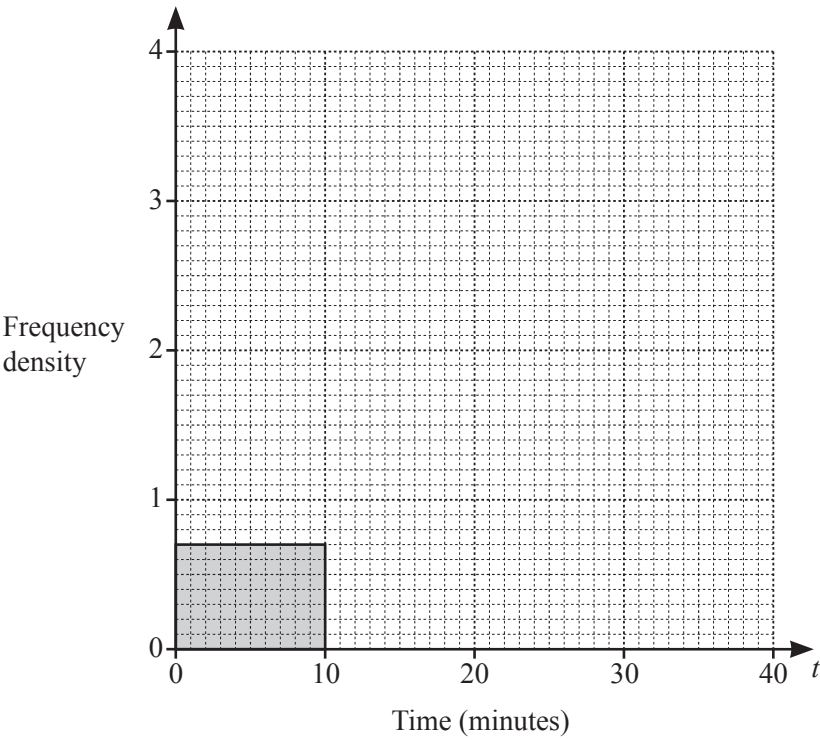
23 The time, t minutes, it takes each of 50 students to travel to school is recorded. The table shows the results.

Time (t minutes)	$0 < t \leq 10$	$10 < t \leq 15$	$15 < t \leq 20$	$20 < t \leq 40$
Frequency	7	19	16	8

(a) Write down the modal class.

..... $< t \leq$ min [1]

(b) On the grid, complete the histogram to show the information in the table.



[3]

2 The number of people swimming in a pool is recorded each day for 12 days.

24 28 13 38 15 26
45 21 48 36 18 38

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

1	
2	
3	
4	

Key: 1 | 3 represents 13 swimmers

[2]

(b) Find the median number of swimmers.

..... [1]

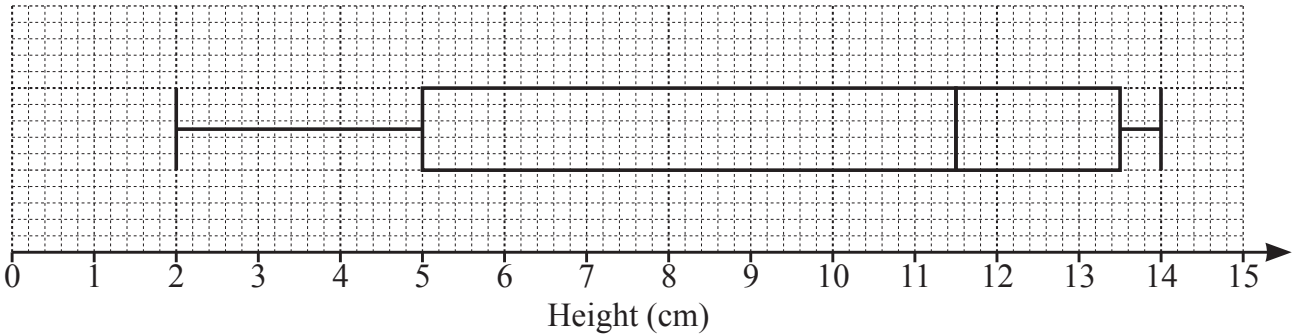
6 The table shows the marks scored by 40 students in a test.

Mark	5	6	7	8	9	10
Frequency	8	5	11	7	5	4

Calculate the mean mark.

..... [3]

14 The box-and-whisker plot gives information about the heights, in centimetres, of some plants.



(a) Write down the median.

..... cm [1]

(b) Find

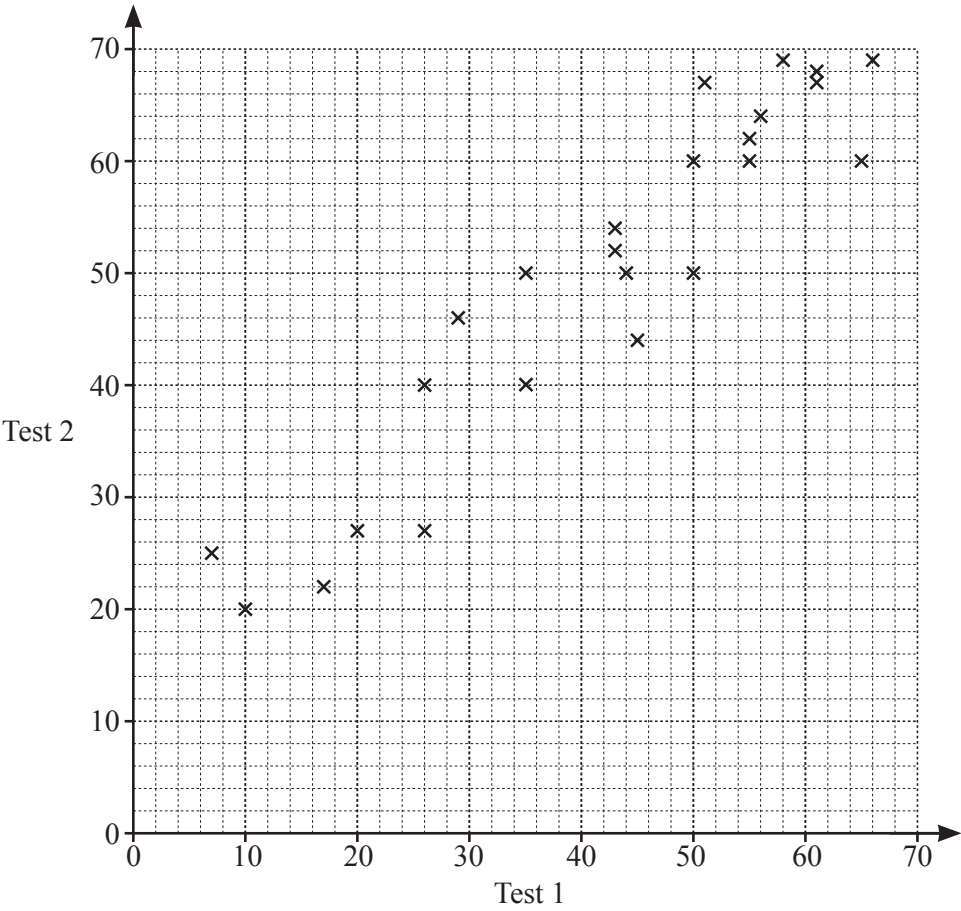
(i) the range,

..... cm [1]

(ii) the interquartile range.

..... cm [1]

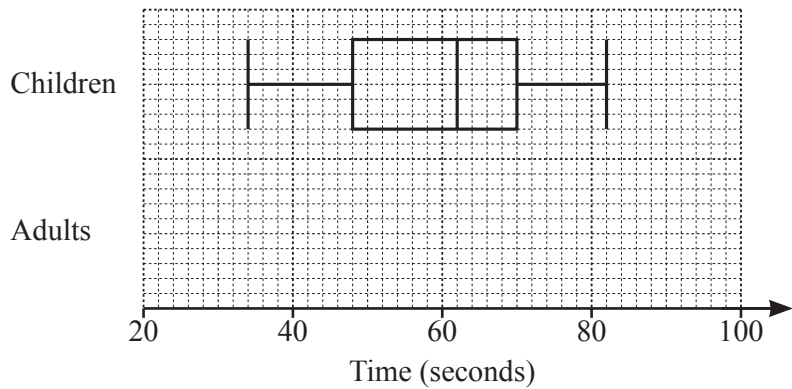
- 3 Mrs Salaman gives her class two mathematics tests.
The scatter diagram shows information about the marks each student scored.



- (a) Write down the highest mark scored on test 1. [1]
- (b) Write down the type of correlation shown in the scatter diagram. [1]
- (c) Draw a line of best fit on the scatter diagram. [1]
- (d) Hamish scored a mark of 40 on test 1.
He was absent for test 2.
- Use your line of best fit to find an estimate for his mark on test 2. [1]

31. Question | 0580 May-June 2020 P2 V1 Q12

- 12** Gemma records the times, in seconds, taken for a group of children and a group of adults to complete a puzzle.
The box-and-whisker plot shows information about the times taken for the children to complete the puzzle.



- (a) Find the interquartile range of the times taken for the children to complete the puzzle.
- seconds [2]
- (b) The table shows some information about the times, in seconds, taken for the adults to complete the puzzle.

Minimum	Lower quartile	Median	Upper quartile	Maximum
28	42	58	70	75

On the grid above, draw the box-and-whisker plot for the adults. [2]

15 The table shows the amount of money, \$ x , given to a charity by each of 60 people.

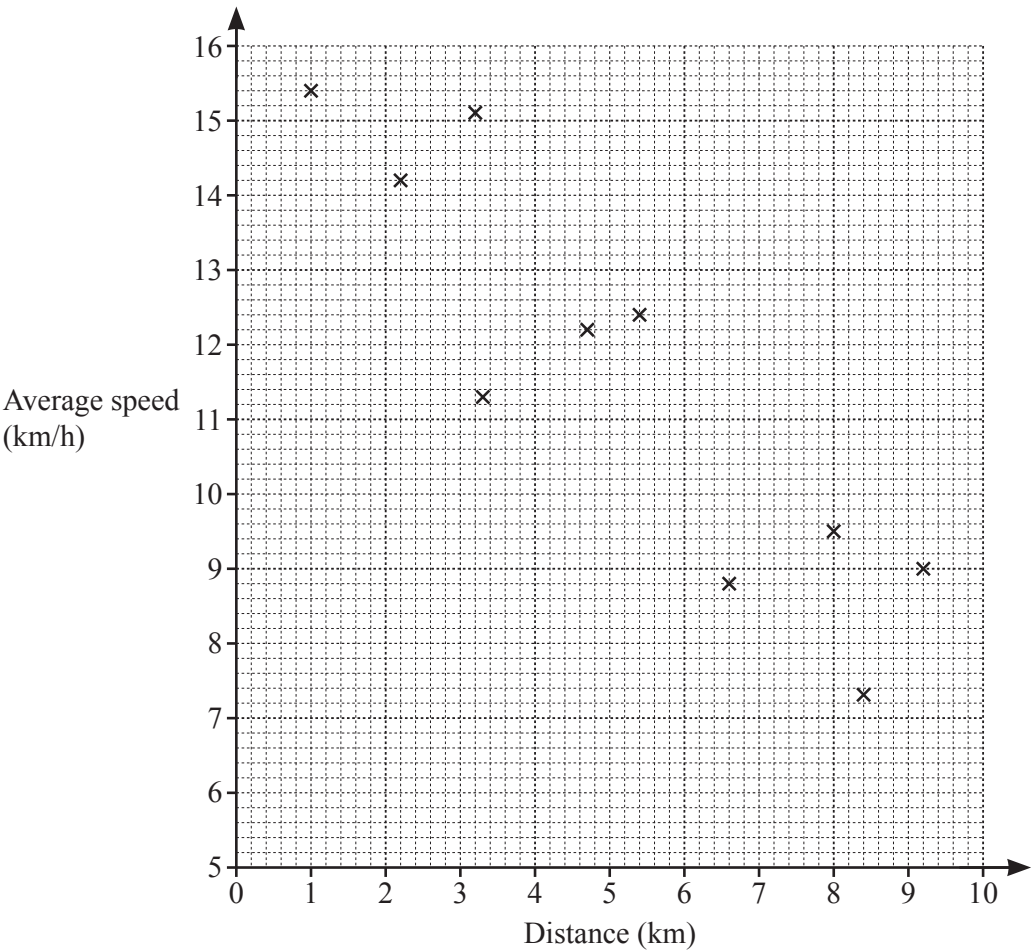
Amount (\$ x)	$0 < x \leq 20$	$20 < x \leq 25$	$25 < x \leq 35$	$35 < x \leq 50$	$50 < x \leq 100$
Frequency	21	16	6	10	7

Calculate an estimate of the mean.

\$ [4]

33. Question | 0580 Oct-Nov 2020 P2 V1 Q4

- 4 Aisha records the distance she runs and her average speed. The results are shown in the scatter diagram.



- (a) The table shows the results of four more runs.

Distance (km)	4.2	5.7	7.1	8.8
Average speed (km/h)	13.4	11.8	9.8	8.3

On the scatter diagram, plot these points. [2]

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

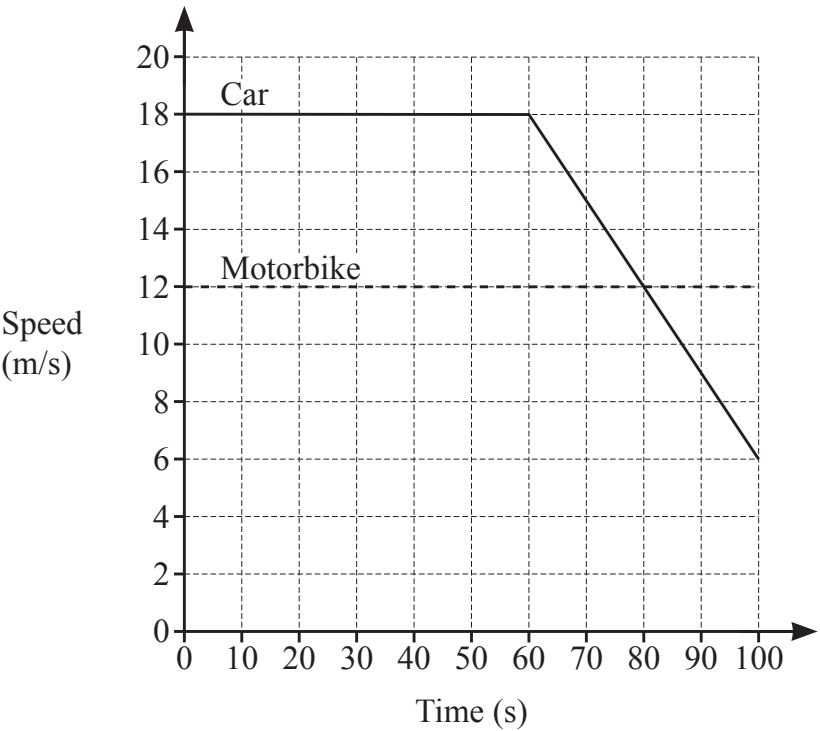
..... [1]

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

- (d) Use your line of best fit to estimate her average speed when she runs a distance of 6 km.

..... km/h [1]

15



The diagram shows the speed–time graph for 100 seconds of the journey of a car and of a motorbike.

(a) Find the deceleration of the car between 60 and 100 seconds.

..... m/s² [1]

(b) Calculate how much further the car travelled than the motorbike during the 100 seconds.

..... m [3]

22 The table shows information about the times, t seconds, taken by each of 100 students to solve a puzzle.

Time (t seconds)	$0 < t \leq 10$	$10 < t \leq 15$	$15 < t \leq 20$	$20 < t \leq 40$	$40 < t \leq 75$
Frequency	9	18	22	30	21

(a) Calculate an estimate of the mean time.

..... s [4]

(b) Emmanuel draws a histogram to show this information.
The table shows the heights, in cm, of some of the bars for this histogram.

Complete the table.

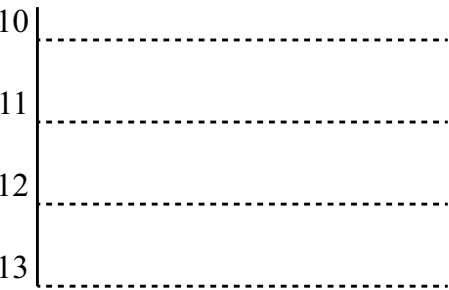
Time (t seconds)	$0 < t \leq 10$	$10 < t \leq 15$	$15 < t \leq 20$	$20 < t \leq 40$	$40 < t \leq 75$
Height of bar (cm)	3.6	14.4	17.6		

[3]

6 The number of cars parked in a car park at 9 am is recorded for 10 days.

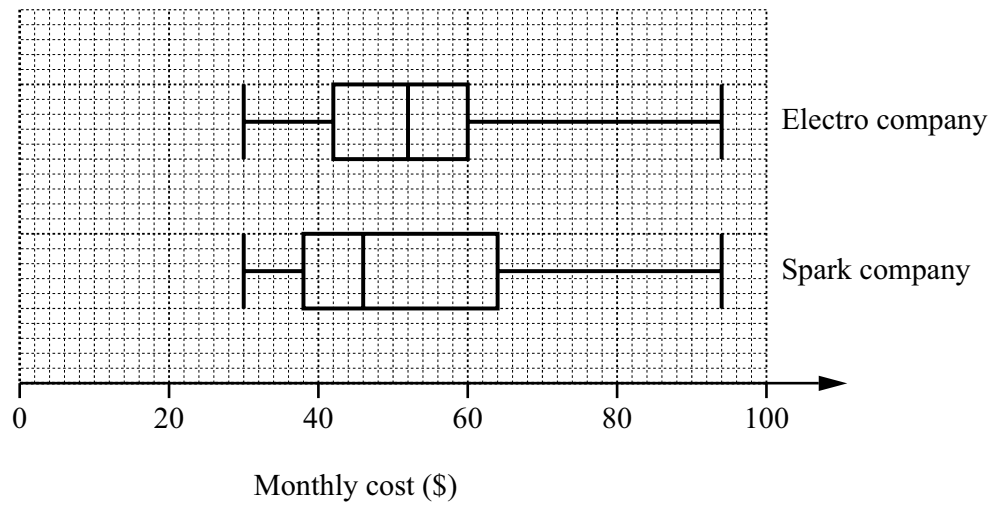
124 130 129 116 132 120 127 107 118 114

Complete the stem-and-leaf diagram.



Key: 12|3 represents 123 cars

- 24** These box-and-whisker plots show the monthly electricity costs for 100 different households who use Electro company or Spark company.



Tom says that the monthly costs with Electro company are lower and vary less than with Spark company.

Is Tom correct?

Justify your answer with reference to the box-and-whisker plots.

38. Question | 0580 Feb-March 2021 P2 V2 Q3

3 The number of passengers on a bus is recorded each day for 14 days.

15	18	22	17	35	38	24
19	19	24	25	31	36	29

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

1	
2	
3	

Key: 1 | 5 represents 15 passengers

[2]

(b) Find the median.

..... [1]

39. Question | 0580 Feb-March 2021 P2 V2 Q5

5 The number of bowls of hot soup sold decreases when the temperature rises.

What type of correlation does this statement describe?

..... [1]

17 Some students were asked how many books they each had in their school bags.
The table shows some of this information.

Number of books	5	6	7	8	9	10
Frequency	4	5	x	11	7	5

The mean number of books is 7.6 .

Calculate the value of x .

$x = \dots\dots\dots$ [3]

3 The stem-and-leaf diagram shows the number of hours that each of 16 students studied last week.

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

Key: 1|2 represents 12 hours

Find

(a) the median,

..... h [1]

(b) the mode,

..... h [1]

(c) the range.

..... h [1]

- 3
- Emma has 15 mathematics questions to complete.
The stem-and-leaf diagram shows the time, in minutes, it takes her to complete each question.

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

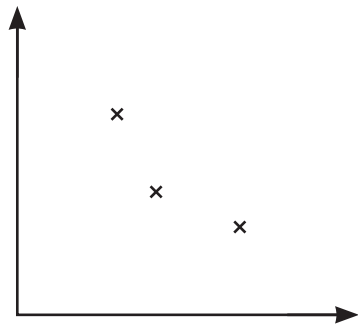
Key: 2 | 0 = 20 minutes

Complete the table.

Mode	 min
Median	 min
Range	 min

43. Question | 0580 May-June 2021 P2 V2 Q5

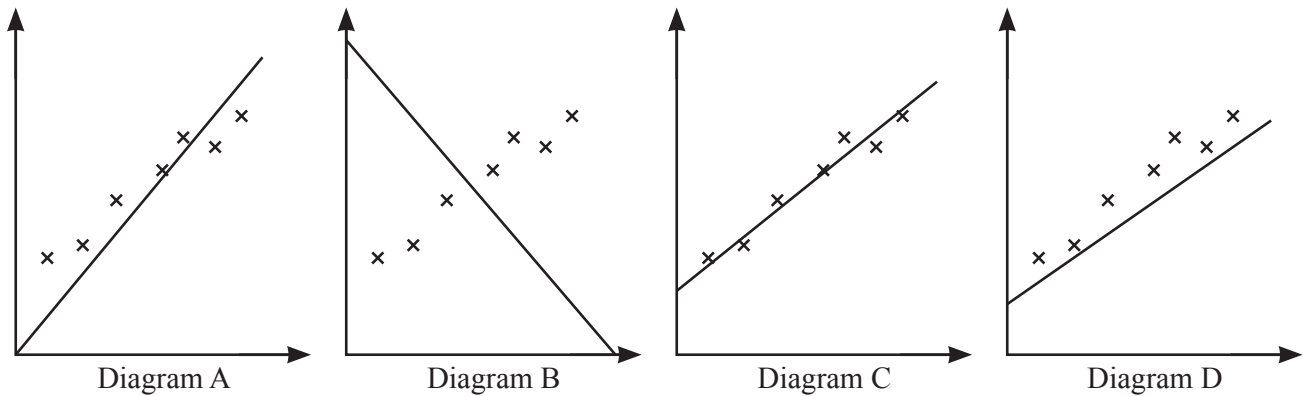
5 (a) Henrik draws this scatter diagram.



Put a ring around the **one** correct statement about this scatter diagram.

- It shows no correlation.
- It is not possible to tell if there is correlation as there are not enough points.
- It shows negative correlation.
- It shows positive correlation.
- [1]

(b) Each of the four scatter diagrams shows the same set of data. A line has been drawn on each diagram.



Complete the statement.

The line in Diagram is the most appropriate line of best fit. [1]

4 The number of items that each of 22 people buy in a supermarket is shown in the stem-and-leaf diagram.

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

Key: 1 | 1 represents 11 items

(a) Find the mode.

..... [1]

(b) Find the median.

..... [1]

45. Question | 0580 Oct-Nov 2021 P2 V2 Q2

2 The stem-and-leaf diagram shows the age, in years, of each of 15 women.

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

Key: 3 | 1 represents 31 years

Complete these statements.

The modal age is

The median age is

The percentage of women that are older than 51 years is %.

[3]

46. Question | 0580 Feb-March 2022 P2 V2 Q11

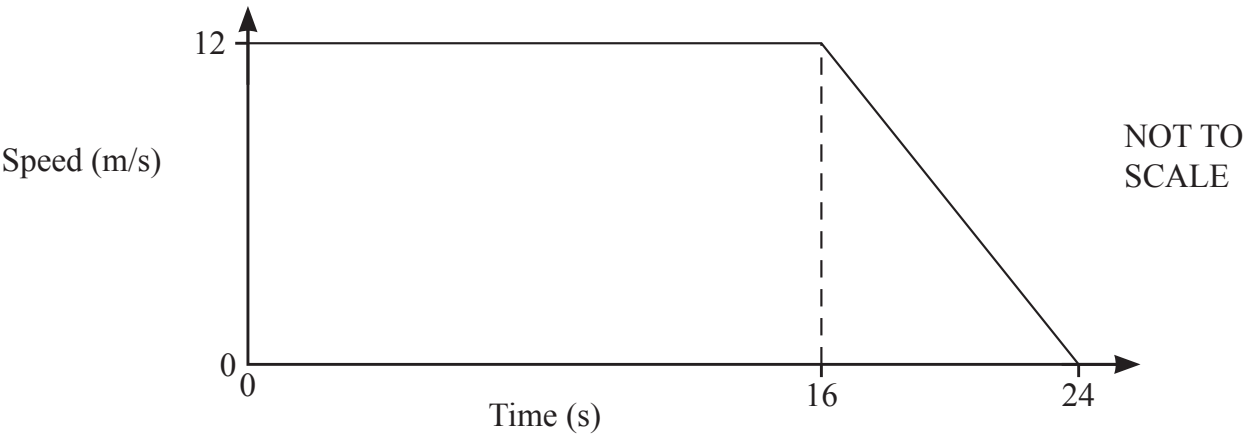
11 As the temperature increases, people eat more ice cream.

What type of correlation does this statement describe?

.....

[1]

20



The diagram shows the speed–time graph for 24 seconds of a car journey.

Calculate

(a) the deceleration of the car in the final 8 seconds,

..... m/s^2 [1]

(b) the total distance travelled during the 24 seconds.

..... m [2]

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

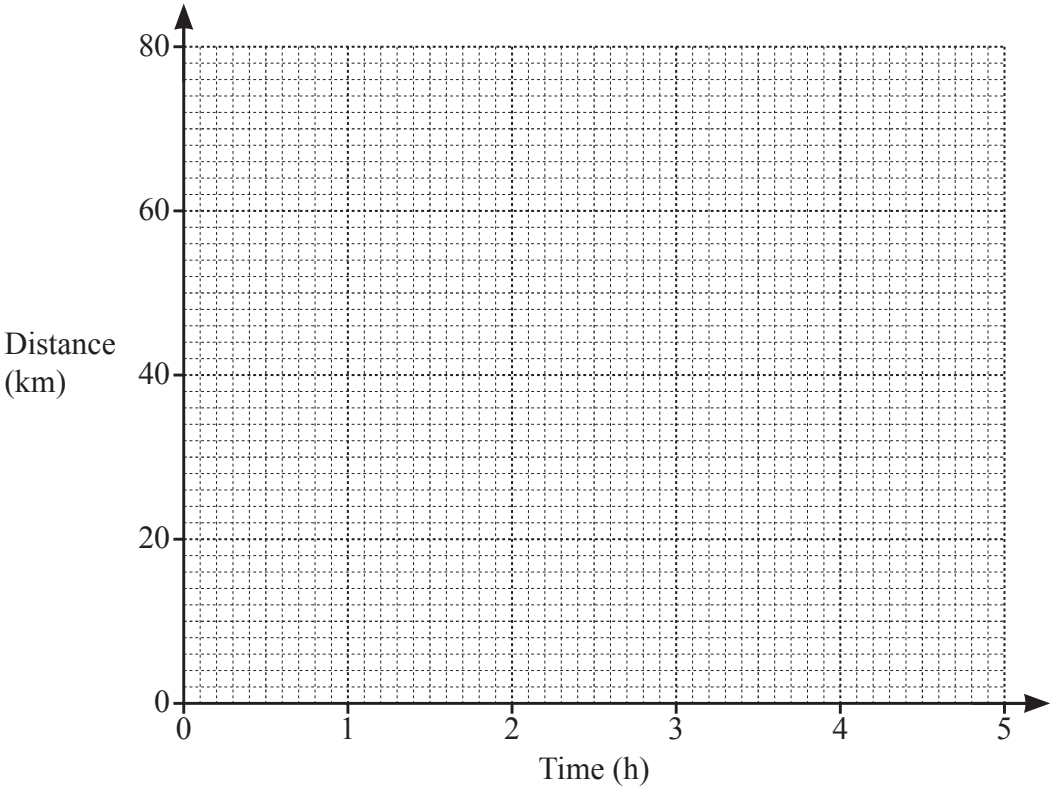
Colour	Black	White	Silver	Red
Number of cars	8	5	4	3

He draws a pie chart to show this information.

Calculate the sector angle for the red cars.

..... [2]

- 12** Annette cycles a distance of 70 km from Midville to Newtown.
Leaving Midville, she cycles for 1 hour 30 minutes at a constant speed of 20 km/h and then stops for 30 minutes.
She then continues the journey to Newtown at a constant speed of 16 km/h.



- (a) On the grid, draw the distance–time graph for the journey. [3]
- (b) Calculate the average speed for the whole journey.

..... km/h [3]

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

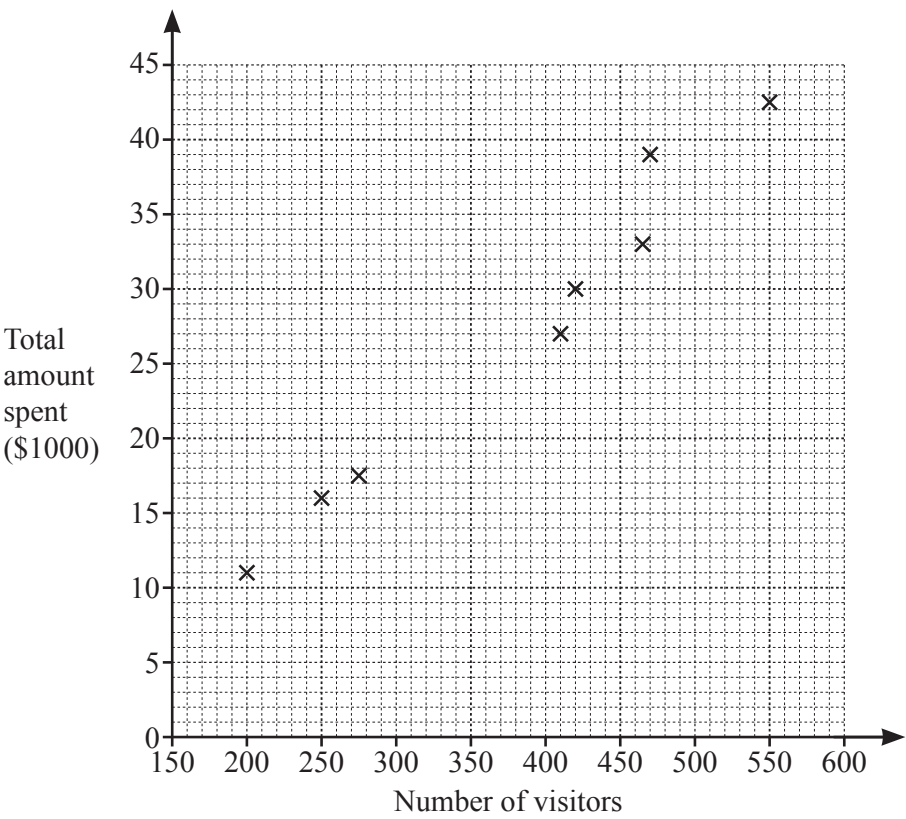
[2]

(b) Find the median.

..... kg [1]

51. Question | 0580 May-June 2022 P2 V3 Q7

- 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]

8 Daryl records the number of hours in a week 8 people spend exercising.

5 2 1.5 3 18 4.5 2 4

(a) Find the median.

..... h [2]

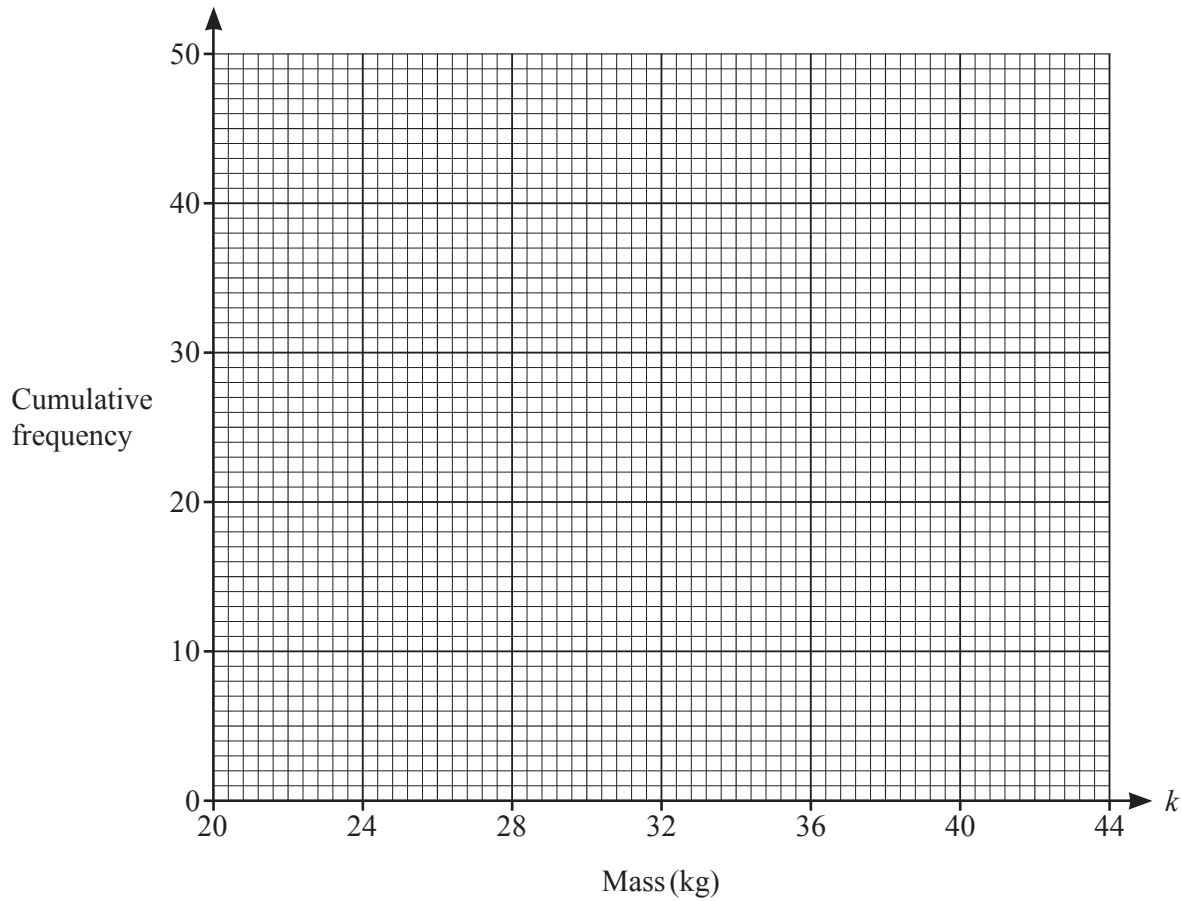
(b) Explain why the mean may not be a suitable average to use.

..... [1]

13 The table shows information about the mass of each of 50 children.

Mass (k kg)	Cumulative Frequency
$k \leq 20$	0
$k \leq 22$	7
$k \leq 24$	23
$k \leq 28$	35
$k \leq 32$	43
$k \leq 36$	47
$k \leq 42$	50

(a) Draw a cumulative frequency diagram to show this information.



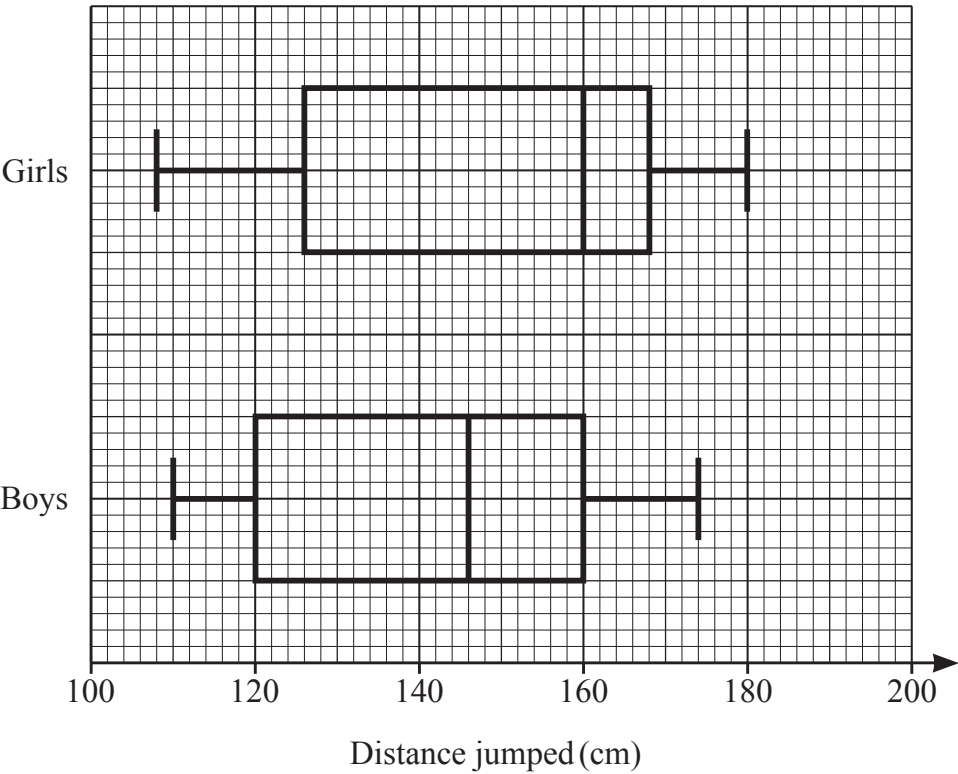
[3]

(b) Use your graph to find an estimate of the 90th percentile.

..... [1]

54. Question | 0580 Oct-Nov 2022 P2 V2 Q14

- 14** 136 girls and 144 boys each measure the distance they jump in centimetres.
The box-and-whisker plots show the distributions of these distances.



Each child who jumps a distance greater than 160 cm gets a certificate.
Work out an estimate of the total number of children who get a certificate.

..... [2]

55. Question | 0580 Oct-Nov 2022 P2 V3 Q4

- 4 The mean mass of four men in a rowing team is 97.5 kg.
The modal mass is 101 kg.
The range of the masses is 8 kg.

Find the mass of each of the four men.

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

56. Question | 0580 May-June 2023 P2 V2 Q3

- 3 On ten days, Stefan records the number of minutes he has to wait for a train.

1 3 12 5 4 23 5 24 11 8

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

0	1 3
1	
2	

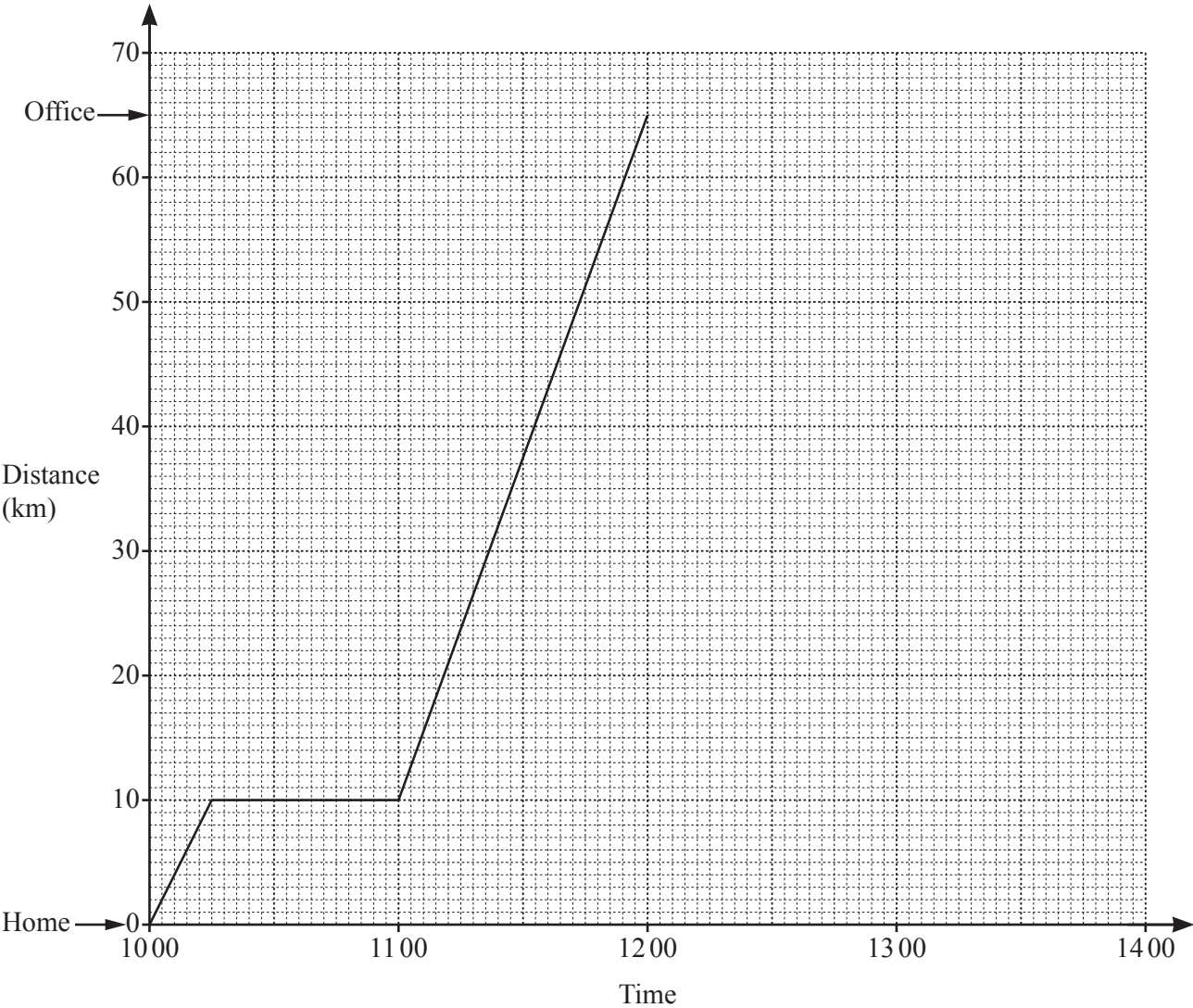
Key: 0 | 1 represents 1 minute

[2]

(b) Find the median.

..... min [1]

9 The distance–time graph shows information about Kai’s journey from home to the office.



(a) Calculate the average speed, in km/h, for Kai’s journey from home to the office.

..... km/h [2]

(b) When Kai arrives at the office, he finds his meeting is cancelled. He immediately returns home at a constant speed of 50 km/h.

Complete the distance–time graph to show his journey home. [1]

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]

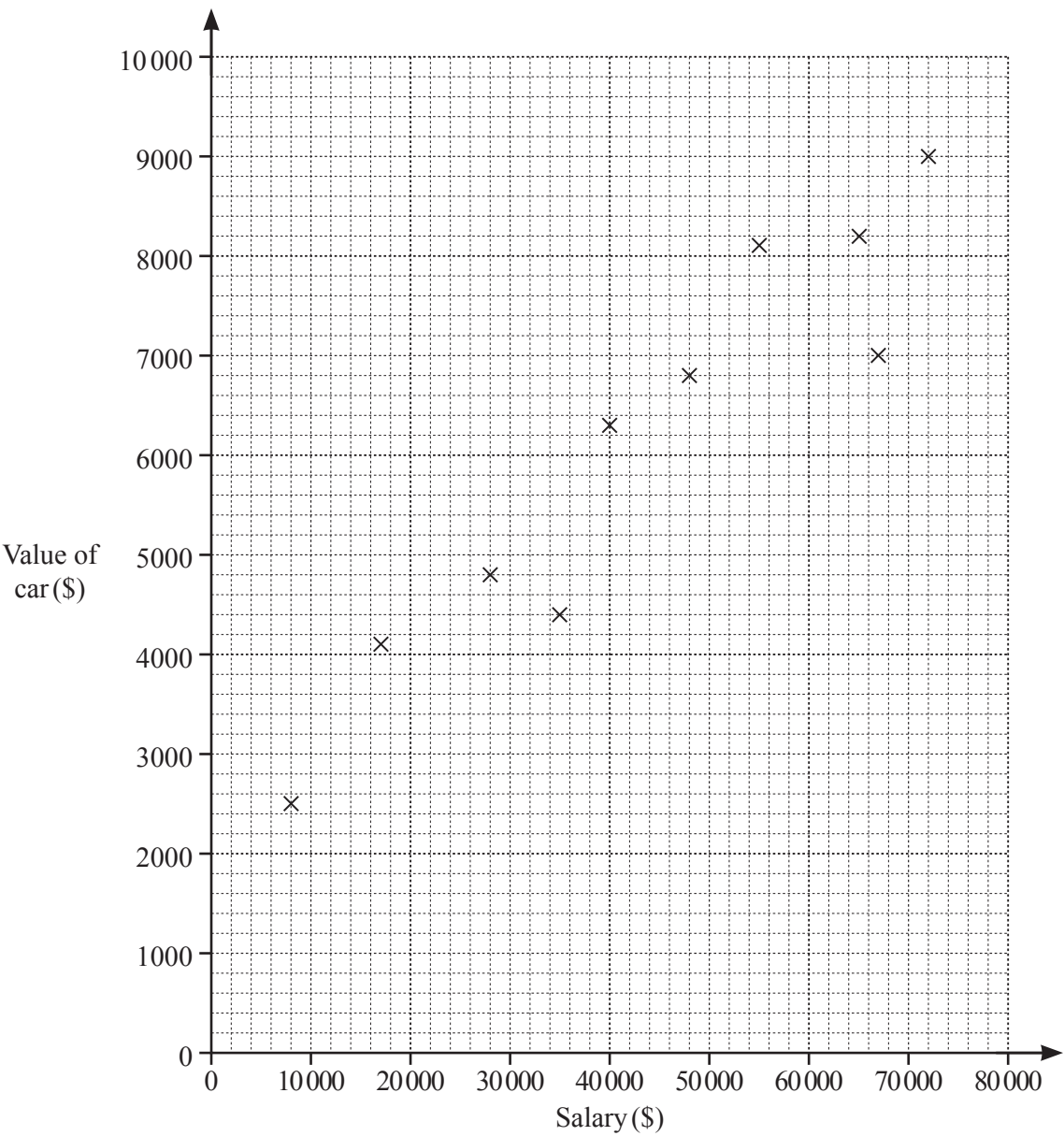
(b) the range

..... min [1]

(c) the median.

..... min [1]

- 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]

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

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

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

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

..... cm [2]

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.

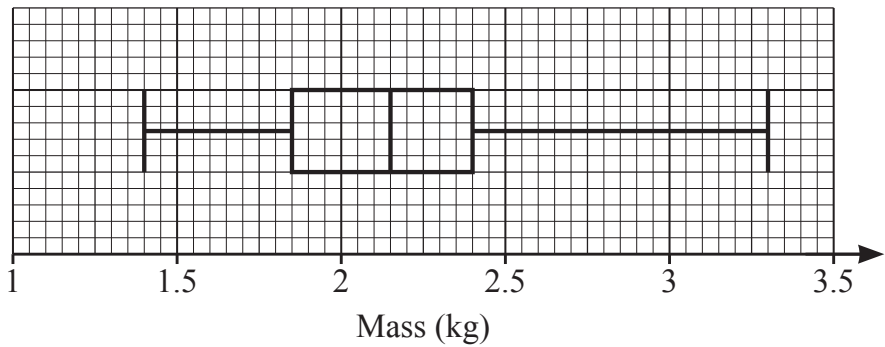
..... cm [1]

(b) Work out the mean height.

..... cm [2]

62. Question | 0580 Oct-Nov 2023 P2 V3 Q14

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]

63. Question | 0580 Feb-March 2024 P2 V2 Q5

5 There are 20 cars in a car park and 3 of the cars are blue.

(a) James wants to draw a pie chart to show this information.

Find the angle of the sector for the blue cars in this pie chart.

..... [2]

(b) One of the 20 cars is picked at random.

Find the probability that this car is **not** blue.

..... [1]

64. Question | 0580 Feb-March 2024 P2 V2 Q7

7 As the temperature increases, the number of people who go swimming increases.

Write down the type of correlation that this statement describes.

..... [1]

65. Question | 0580 Feb-March 2024 P2 V2 Q17

17 The height of each of 200 people is measured.
The table shows the results.

Height (h cm)	$100 < h \leq 120$	$120 < h \leq 130$	$130 < h \leq 150$	$150 < h \leq 190$
Frequency	32	55	64	49

Calculate an estimate of the mean height.

..... cm [4]

3 A delivery driver records the number of pizzas she delivers each month for one year.

48	44	39	28	57	22
36	41	54	57	49	52

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

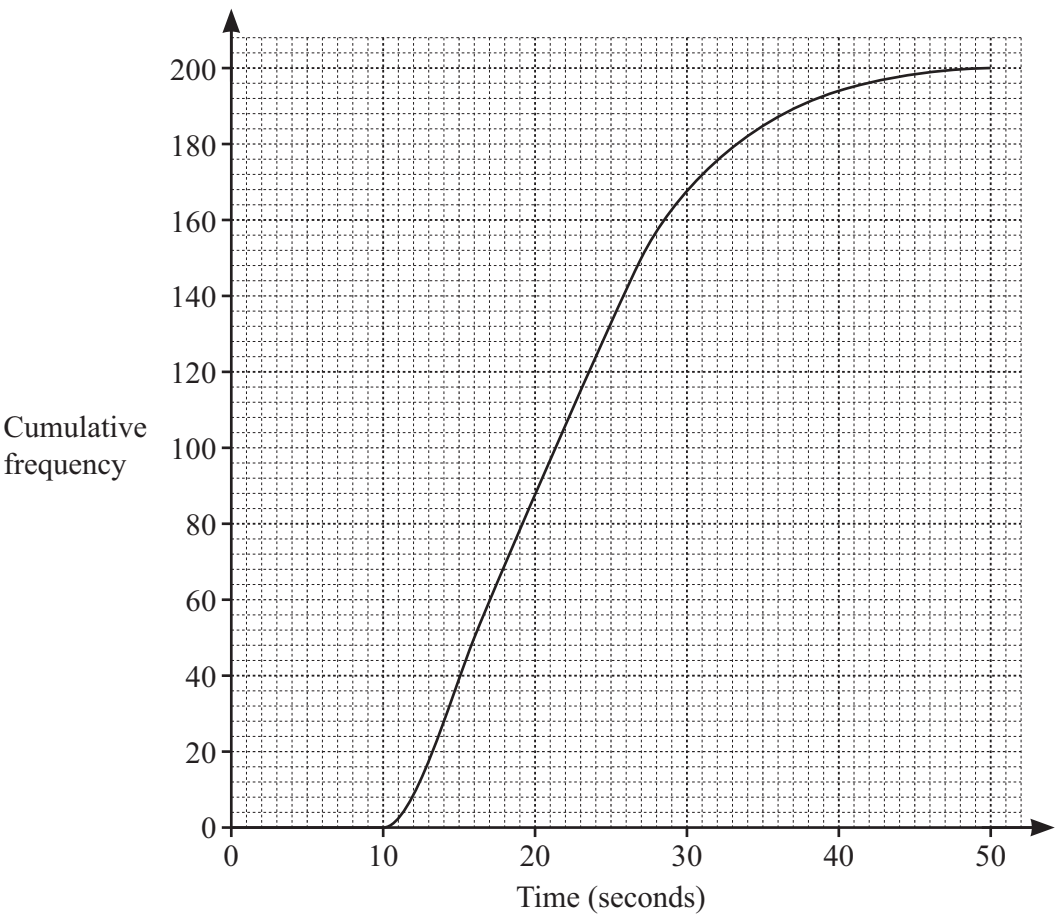
2	
3	
4	
5	

Key: 4 | 8 represents 48 pizzas [2]

(b) Find the median.

..... [1]

15



The time taken for each of 200 students to complete a calculation is measured.
The cumulative frequency diagram shows the results.

Use the diagram to find an estimate for

(a) the interquartile range

..... s [2]

(b) the number of students taking more than 40 seconds to complete the calculation.

..... [2]

67. Question part 2/2 | 0580 May-June 2024 P2 V3 Q15

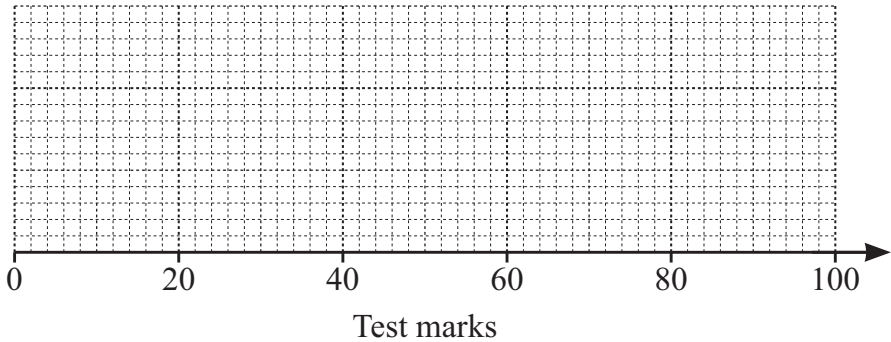


68. Question | 0580 Oct-Nov 2024 P2 V1 Q15

15 Students in class P take a test.
These statistics show information about their marks.

- lower quartile = 38
- median = 53
- interquartile range = 28
- range = 81
- highest mark = 96

(a) Draw a box-and-whisker plot to represent this information.



[3]

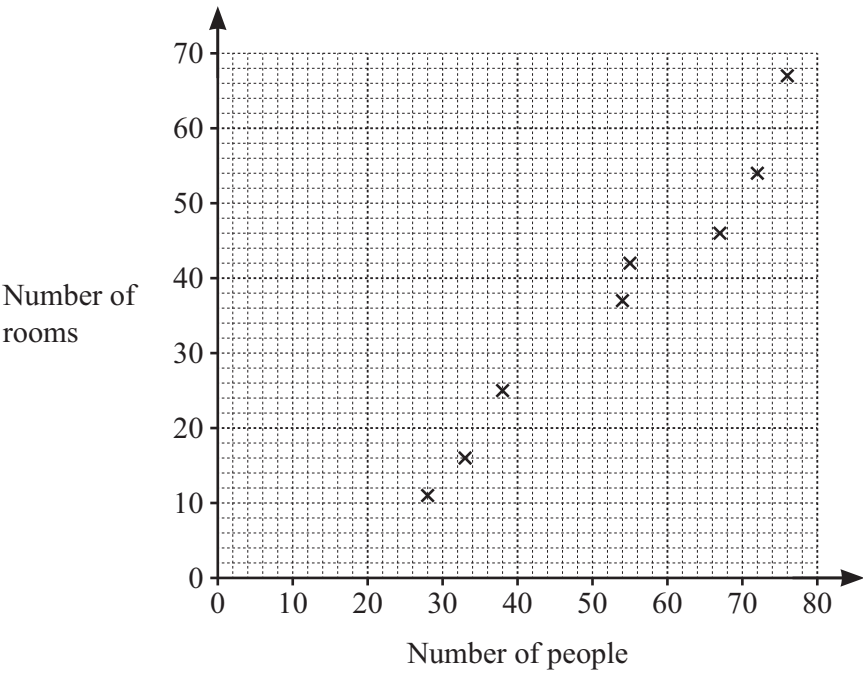
(b) Students in class Q take the same test.
For class Q , the median is 49 and the interquartile range is 35.

Make two comments comparing the distribution of marks for class P with that of class Q .

1.
-
2.
-

[2]

4 The scatter diagram shows the number of rooms and the number of people in each of eight buildings.



(a) One of the buildings has 67 rooms.

Write down the number of people in this building.

..... [1]

(b) In another building there are 42 people and 33 rooms.

On the scatter diagram, plot this point.

[1]

(c) (i) On the scatter diagram, draw a line of best fit.

[1]

(ii) There are 45 people in a different building.

Find an estimate for the number of rooms in this building.

..... [1]

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

..... [1]

70. Question | 0580 Oct-Nov 2024 P2 V3 Q5

- 5 Each student in a class of 20 students records the number of coins in their pockets.
The table shows the results.

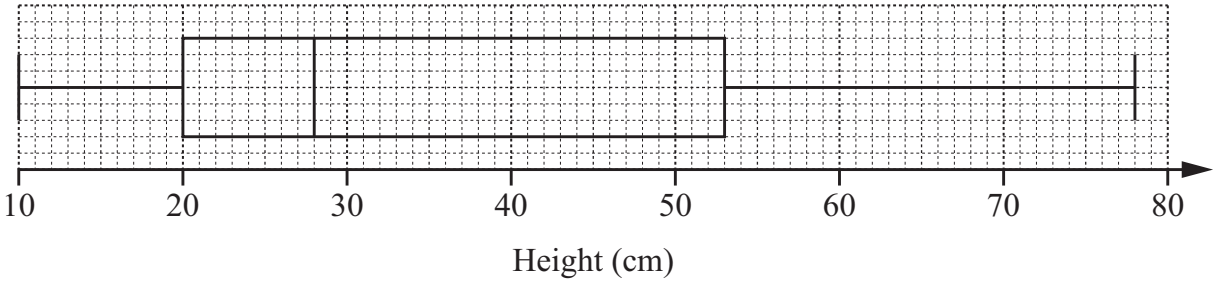
Number of coins	0	1	2	3	4	5	6
Frequency	3	1	7	8	0	0	1

- (a) Find the median.
- [1]
- (b) Calculate the mean.

71. Question | 0580 Oct-Nov 2024 P2 V3 Q15

r21

15

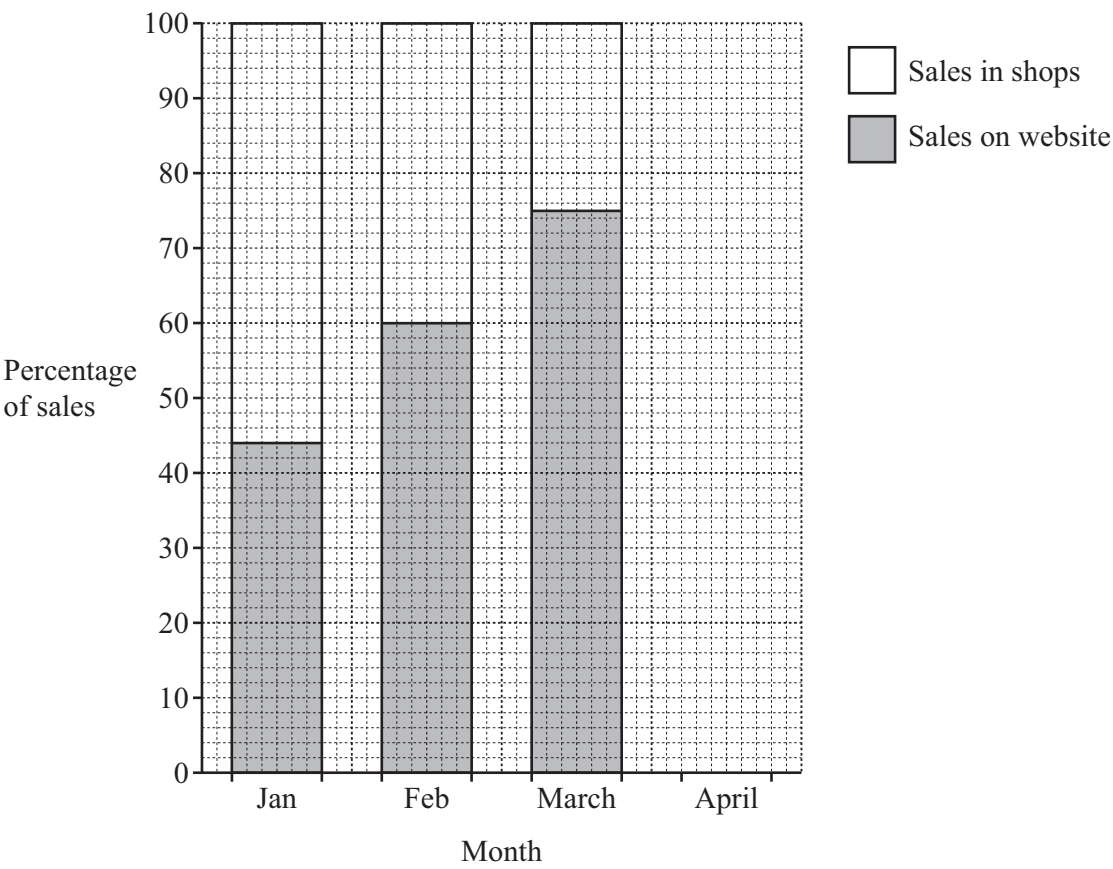


The box-and-whisker diagram shows information about the heights of some plants.

- (a) Find the median height.
- cm [1]
- (b) Find the interquartile range of the heights.
- cm [1]

72. Question part 1/2 | 0580 Feb-March 2025 P2 V2 Q11

- 11 A company sells items either on a website or in shops.
The composite bar chart shows the percentage of sales on the website and in shops for January, February and March.



- (a) In April, $\frac{17}{20}$ of the company’s sales were on the website.

On the grid, draw the bar for April. [2]

- (b) In February, the company had sales of \$3.5 million.

Work out the value of sales **in shops** in February.

\$ million [3]

72. Question part 2/2 | 0580 Feb-March 2025 P2 V2 Q11



- (c) In May, the company had sales of \$6 million.
In June, the company had sales of \$7.5 million.

Find the percentage increase in sales from May to June.

..... % [3]

- (d) In 2024, the company had total sales of \$52 million.
This was an increase of 30% on the total sales for 2023.

Work out the total sales in 2023.

\$ million [2]

73. Question | 0580 Feb-March 2025 P2 V2 Q16

16 The stem-and-leaf diagram shows the mass of each of 13 packets.

3	1	2	8			
4	0	1	2	3	3	8
5	1	2	3	4		

Key: 3 | 1 represents 31 g

(a) Work out the interquartile range.

..... g [3]

(b) Two of these packets are chosen at random.

Find the probability that the one packet has a mass of more than 50 g and the other packet has a mass of less than 50 g.

..... [3]

9 The table shows some information about the marks scored by a group of students in a test.

Test mark	4	5	8
Frequency	2	4	n

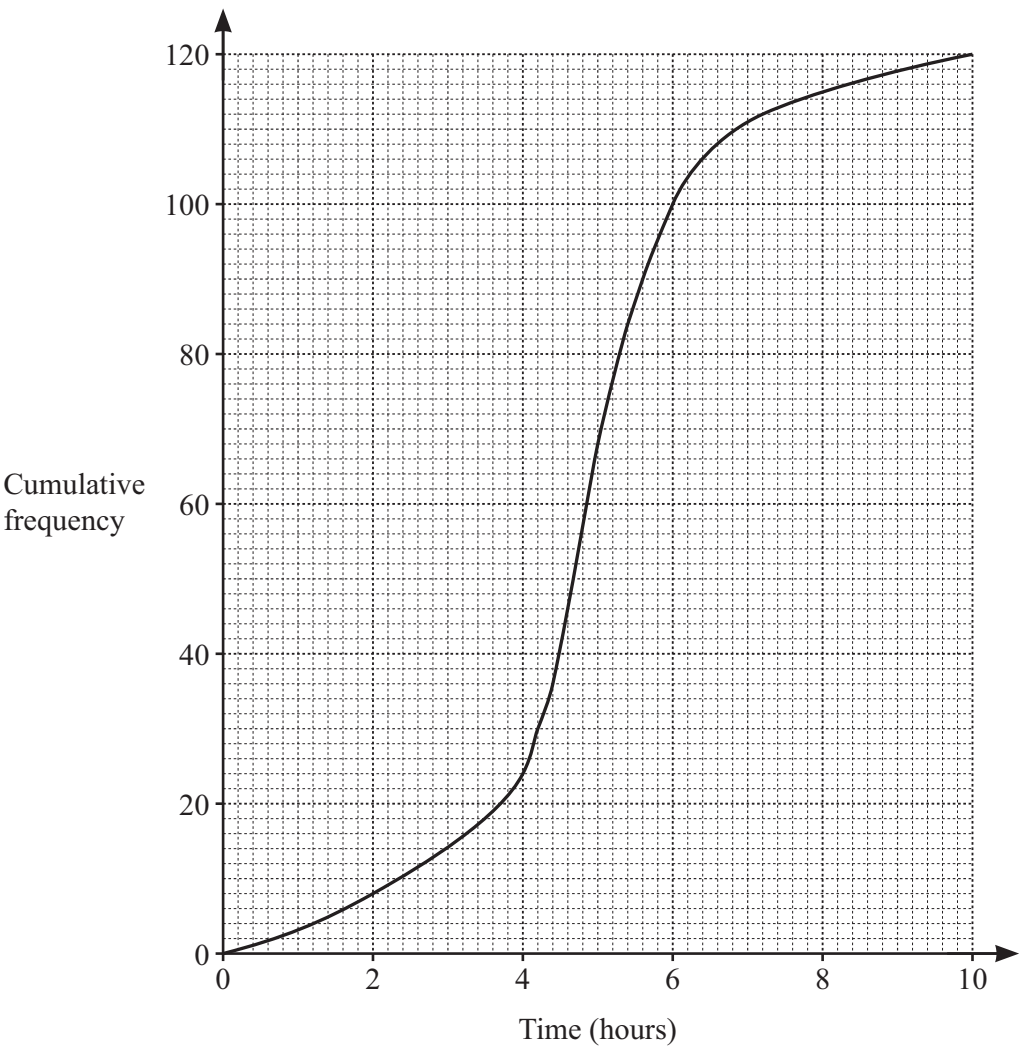
The mean mark is 6.

Work out the value of n .

$n = \dots\dots\dots$ [3]

75. Question | 0580 May-June 2025 P2 V1 Q12

- 12 The time spent on the internet by each of 120 adults is recorded for one day. The cumulative frequency diagram shows this information.



- (a) Use the cumulative frequency diagram to find an estimate of the interquartile range.

..... h [2]

- (b) 70% of the adults spent less than k hours on the internet.

Use the cumulative frequency diagram to find an estimate of the value of k .

$k =$ [2]

76. Question part 1/2 | 0580 May-June 2025 P2 V2 Q13

- 13
- (a)

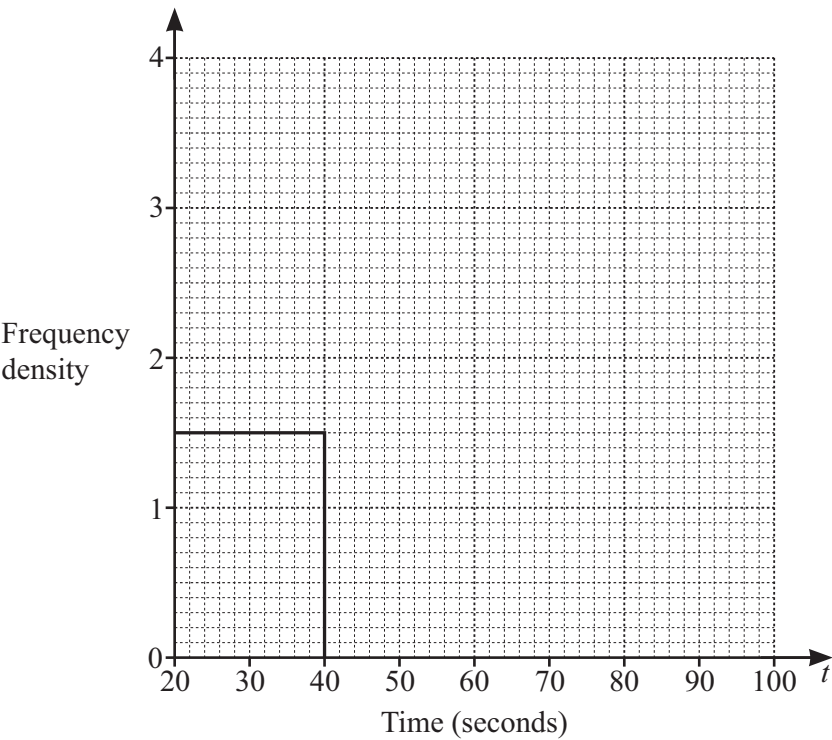
100 students solve a puzzle.
The table shows information about the time taken by each student to solve the puzzle.

Time (t seconds)	$20 < t \leq 40$	$40 < t \leq 60$	$60 < t \leq 100$
Frequency	30	40	30

- (i)
- Work out an estimate of the mean.

.....s [4]

- (ii)
- Complete the histogram to show the information in the table.



[2]

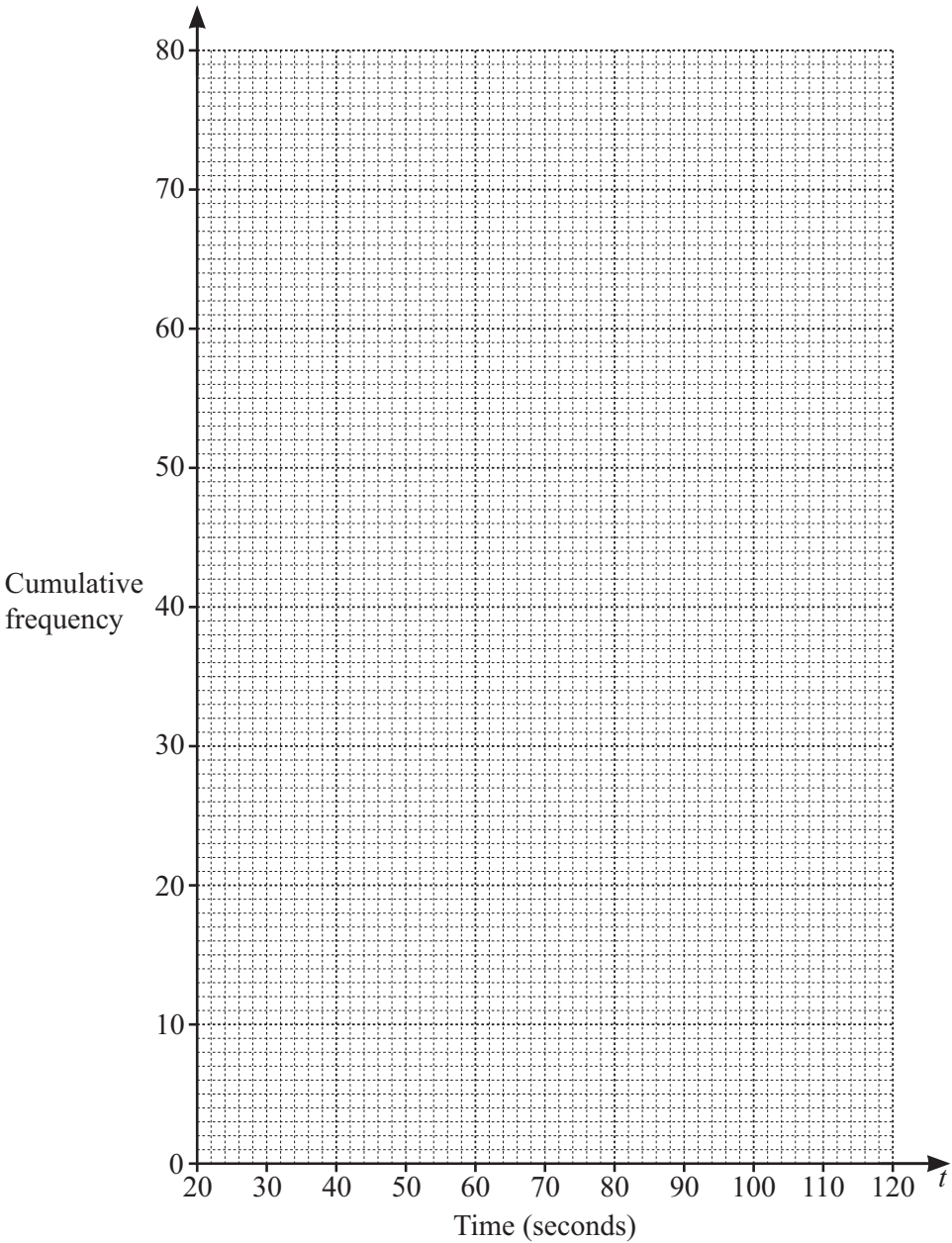
76. Question part 2/2 | 0580 May-June 2025 P2 V2 Q13



- (b) 80 adults solve the same puzzle as the students.
The cumulative frequency table shows information about the time taken by each adult to solve the puzzle.

Time (t seconds)	$t \leq 20$	$t \leq 40$	$t \leq 60$	$t \leq 80$	$t \leq 100$	$t \leq 120$
Cumulative frequency	0	12	36	60	74	80

- (i) On the grid, draw a cumulative frequency diagram.



[3]

- (ii) Use your cumulative frequency diagram to find an estimate for

(a) the median
..... s [1]

(b) the lower quartile.
..... s [1]

4 The number of ice creams sold increases as the temperature rises.

What type of correlation does this statement describe?

..... [1]

78. Question | 0580 May-June 2025 P2 V3 Q6

- 6 There are 15 giraffes in a group.
The table gives information about the heights of the 15 giraffes.

One giraffe has a height of 2.6 m
No giraffe is shorter than 2.5 m
The range of heights for the 15 giraffes is 2.3 m
More than 3 giraffes have the same height
The modal height for the giraffes is 3.9 m

The stem-and-leaf diagram shows information about the height of 9 of these giraffes.

2	5
3	2 7 7
4	1 1 4 5 7

Key: 4|1 represents a giraffe height of 4.1 m

Use the information in the table to complete the stem-and-leaf diagram for the group of 15 giraffes.

13 These are Rahul’s 10 test scores.

9 8 9 10 7 x 9 9 x 7

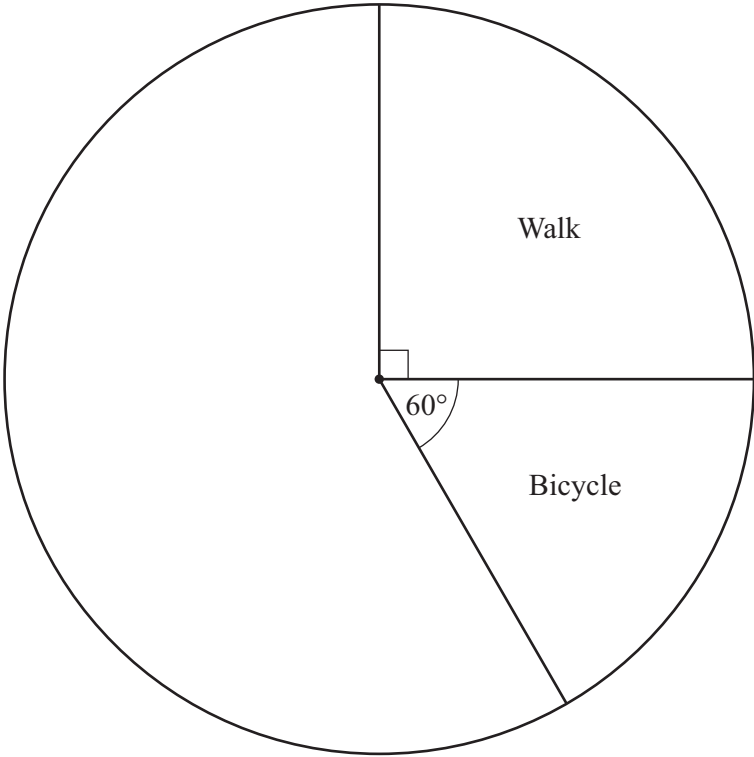
The mean of these scores is 8.

Find the interquartile range.
You must show all your working.

..... [4]

80. Question | 0580 Oct-Nov 2025 P2 V2 Q5

5 The pie chart shows some information about the way 600 students travel to school.



(a) Work out the number of students that walk to school.

..... [2]

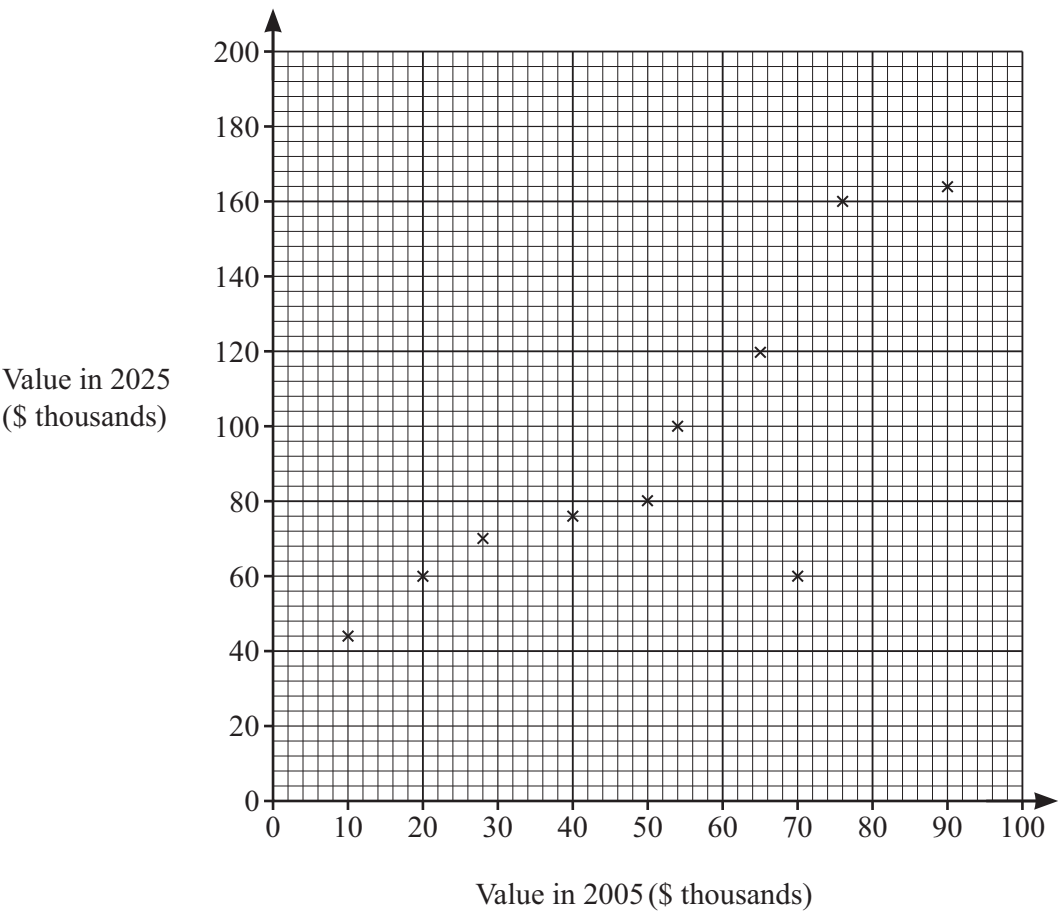
(b) 120 of the students travel to school by car.
The remaining students travel by bus.

Complete the pie chart.

[3]

81. Question | 0580 Oct-Nov 2025 P2 V3 Q6

- 6 The scatter diagram shows the value, in thousands of dollars, of ten paintings in 2005 and the value of the same paintings in 2025.



- (a) The value of one of the paintings in 2025 is less than expected.
Draw a circle around the point that represents this painting. [1]
- (b) Another painting had a value of \$75 000 in 2005 and \$140 000 in 2025.
On the scatter diagram, plot this point. [1]
- (c) Write down the number of paintings with a value of less than \$53 000 in 2005. [1]
- (d) What type of correlation is shown on the scatter diagram? [1]

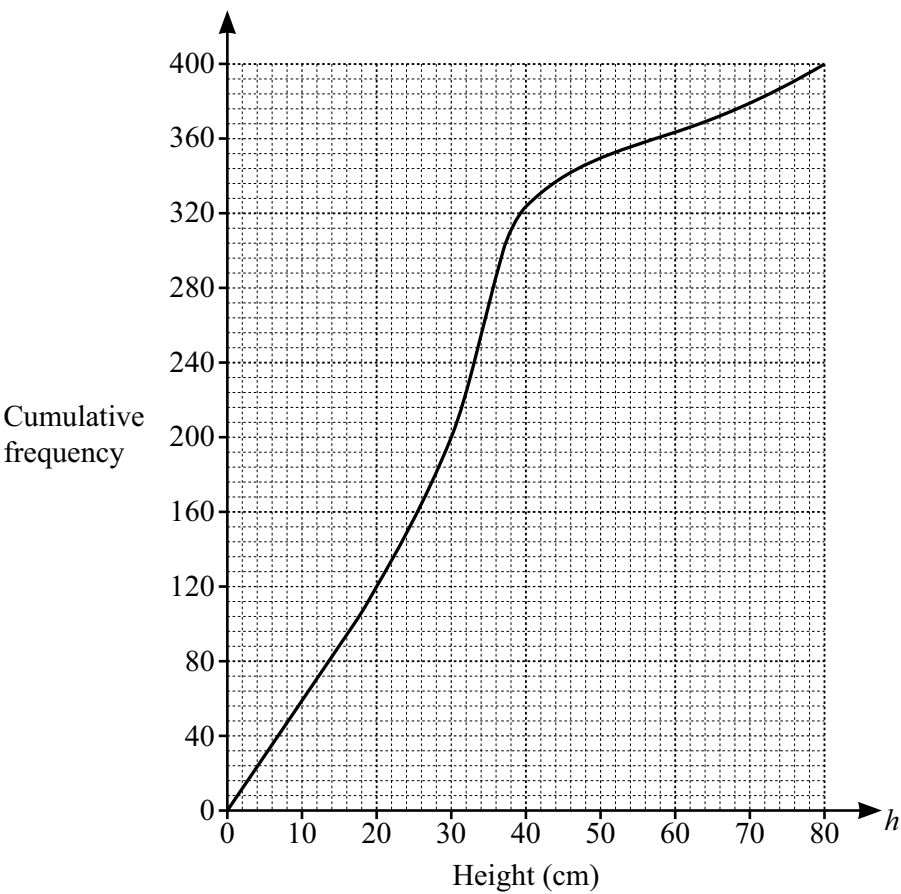
14 The range, mode, median and mean of five positive integers are all equal to 10.

Find one possible set of these five integers.

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

16 A student measures the height, h cm, of each of 400 plants.

(a) The cumulative frequency diagram shows the results.



Use the diagram to find an estimate for

(i) the median

..... cm [1]

(ii) the interquartile range

..... cm [2]

(iii) the 80th percentile

..... cm [2]

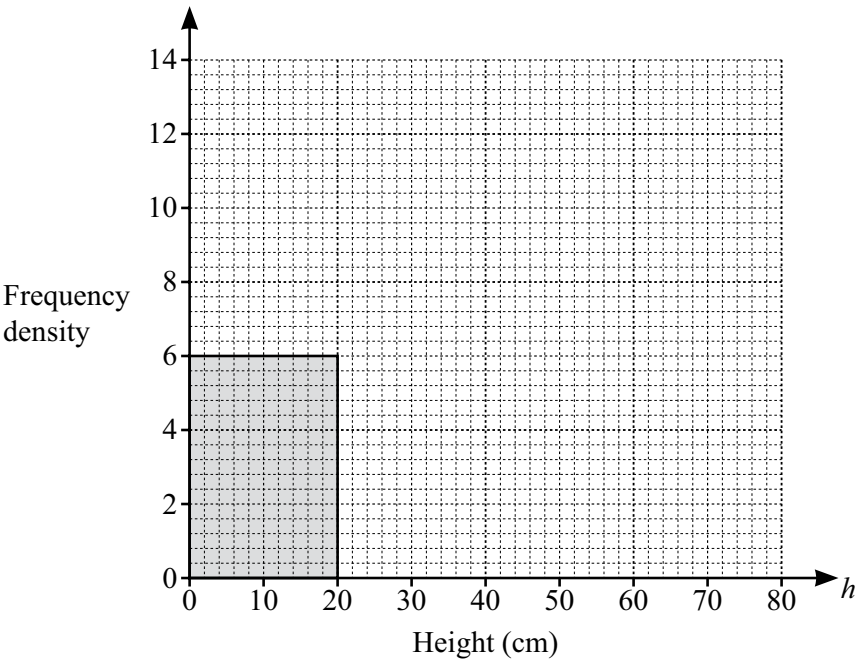
(iv) the number of plants with a height greater than 60 cm.

..... [2]

(b) The heights are also shown in the frequency table.

Height (h cm)	$0 < h \leq 20$	$20 < h \leq 30$	$30 < h \leq 40$	$40 < h \leq 80$
Frequency	120	80	124	76

Complete the histogram to show this information.



[3]