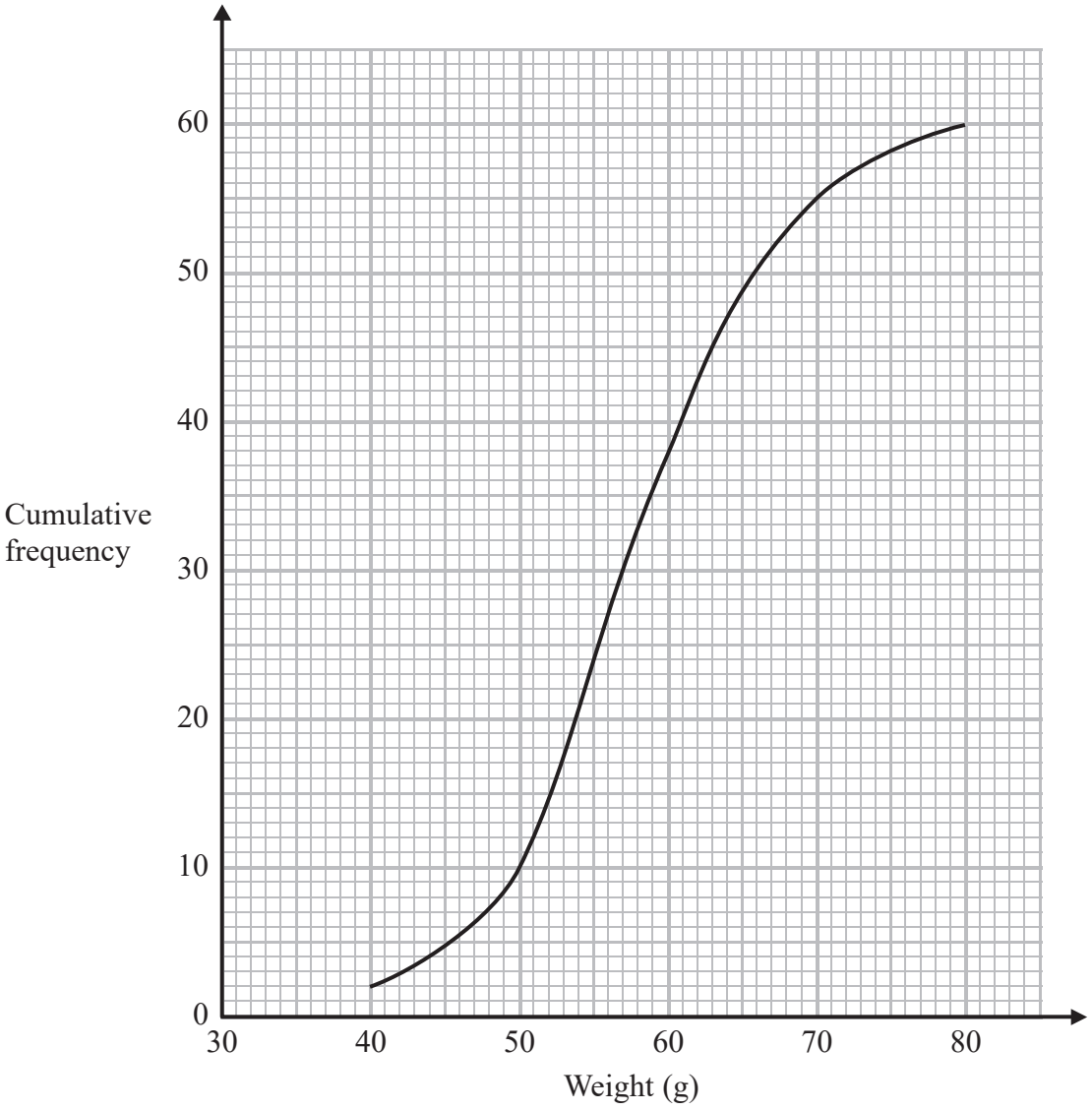
Autumn 2017 Paper 3 Q11

1 The cumulative frequency graph shows information about the weights of 60 potatoes.



(a) Use the graph to find an estimate for the median weight.

..... g

(1)

Jamil says,

"80 − 40 = 40 so the range of the weights is 40 g."

(b) Is Jamil correct?
You must give a reason for your answer.

.....

.....

(1)

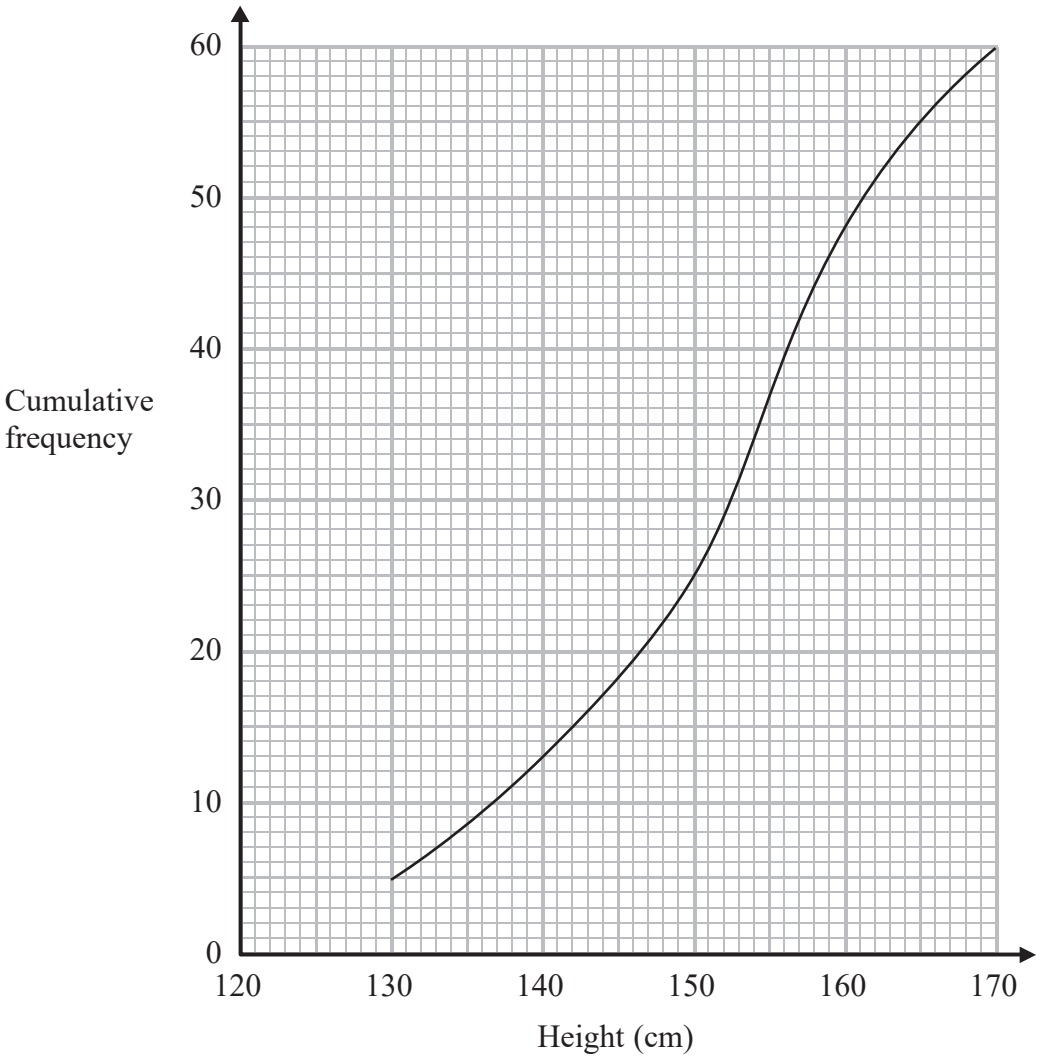
(c) Show that less than 25% of the potatoes have a weight greater than 65 g.

(2)

(Total for Question 1 is 4 marks)

Summer 2017 Paper 2 Q8

2 The cumulative frequency graph shows some information about the heights, in cm, of 60 students.



Work out an estimate for the number of these students with a height greater than 160 cm.

.....

(Total for Question 2 is 2 marks)

Summer 2019 Paper 2 Q11

3 The grouped frequency table gives information about the times, in minutes, that 80 office workers take to get to work.

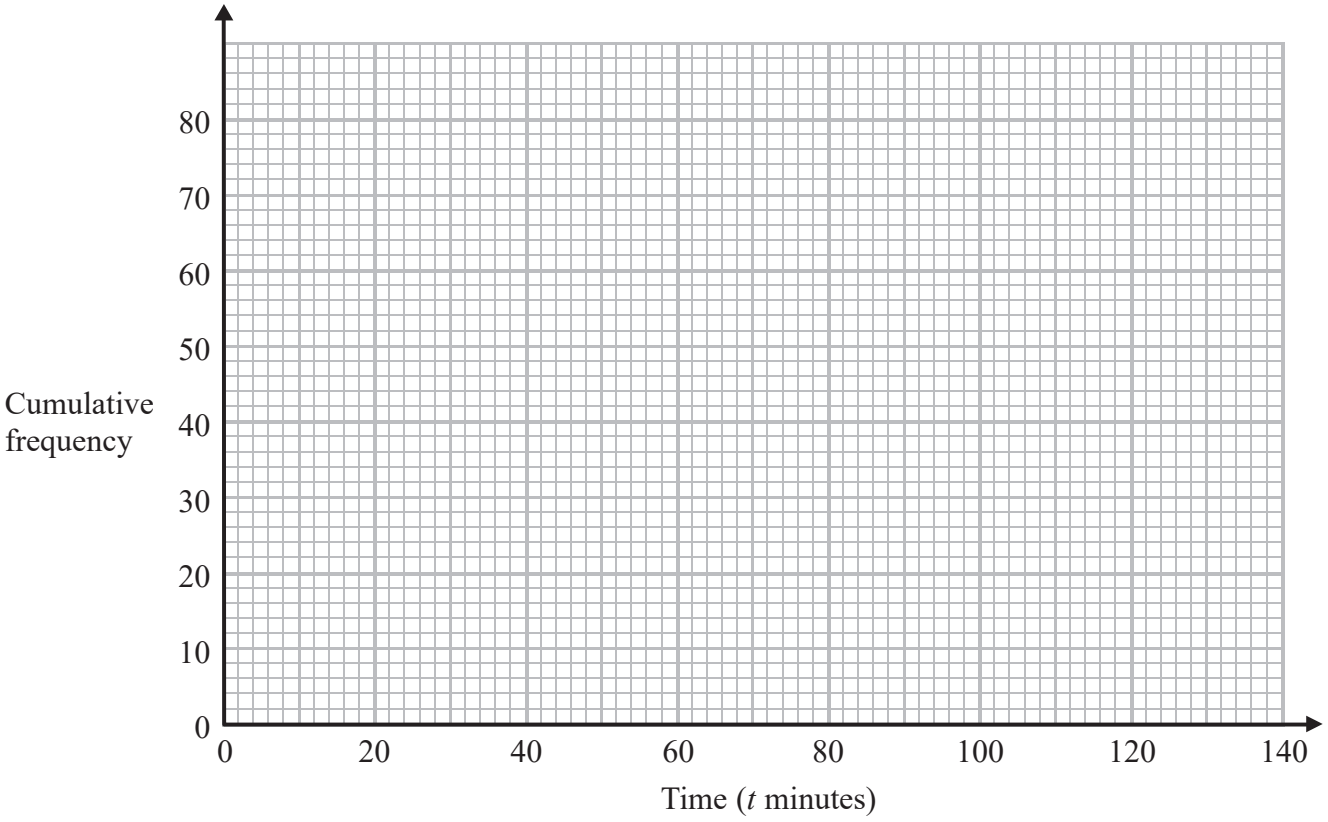
Time (t minutes)	**Frequency**
$0 < t \leqslant 20$	5
$20 < t \leqslant 40$	30
$40 < t \leqslant 60$	20
$60 < t \leqslant 80$	15
$80 < t \leqslant 100$	8
$100 < t \leqslant 120$	2

(a) Complete the cumulative frequency table.

Time (t minutes)	**Cumulative frequency**
$0 < t \leqslant 20$	
$0 < t \leqslant 40$	
$0 < t \leqslant 60$	
$0 < t \leqslant 80$	
$0 < t \leqslant 100$	
$0 < t \leqslant 120$	

(1)

(b) On the grid, draw the cumulative frequency graph for this information.



(2)

(c) Use your graph to find an estimate for the percentage of these office workers who take more than 90 minutes to get to work.

.....%

(3)

(Total for Question 3 is 6 marks)

Summer 2020 Paper 1 Q12

4 The table gives information about the weekly wages of 80 people.

Wage (£w)	**Frequency**
$200 < w \leqslant 250$	5
$250 < w \leqslant 300$	10
$300 < w \leqslant 350$	20
$350 < w \leqslant 400$	20
$400 < w \leqslant 450$	15
$450 < w \leqslant 500$	10

(a) Complete the cumulative frequency table.

Wage (£w)	**Cumulative frequency**
$200 < w \leqslant 250$	
$200 < w \leqslant 300$	
$200 < w \leqslant 350$	
$200 < w \leqslant 400$	
$200 < w \leqslant 450$	
$200 < w \leqslant 500$	

(1)

(b) On the grid opposite, draw a cumulative frequency graph for your completed table.

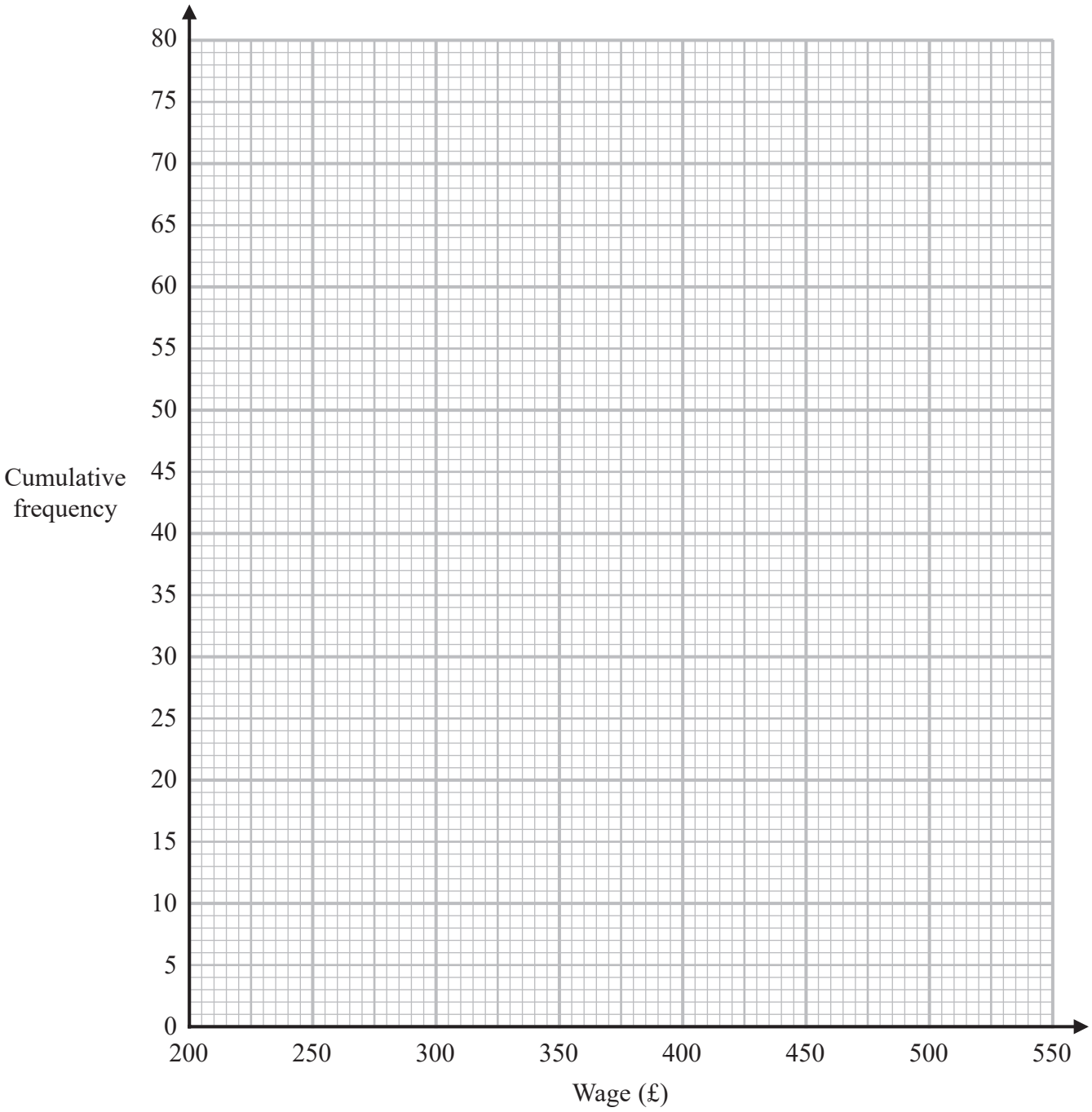
(2)

Juan says

"60% of this group of people have a weekly wage of £360 or less."

(c) Is Juan correct?
You must show how you get your answer.

(3)



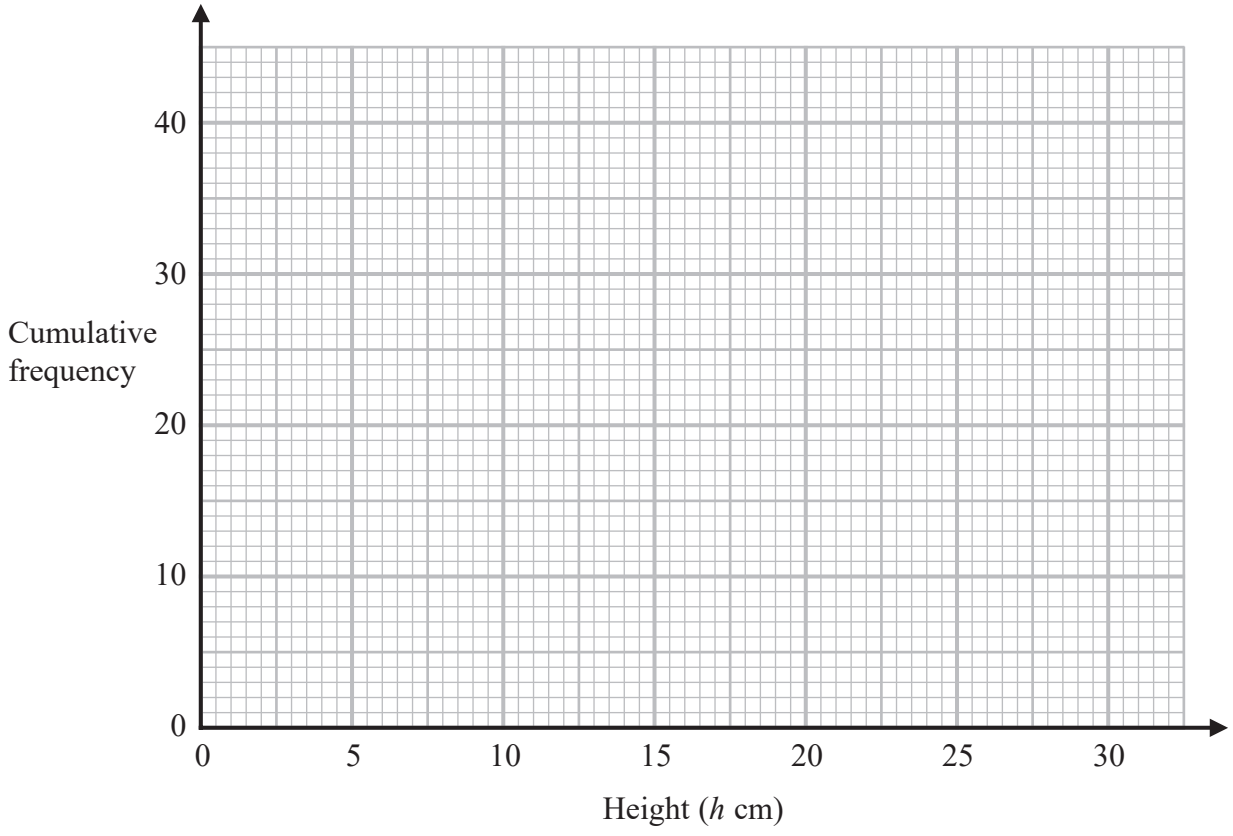
(Total for Question 4 is 6 marks)

Summer 2021 Paper 1 Q12

5 The cumulative frequency table gives information about the heights, in cm, of 40 plants.

Height (h cm)	Cumulative Frequency
$0 < h \leqslant 5$	4
$0 < h \leqslant 10$	11
$0 < h \leqslant 15$	24
$0 < h \leqslant 20$	34
$0 < h \leqslant 25$	38
$0 < h \leqslant 30$	40

(a) On the grid, draw a cumulative frequency graph for this information.



(2)

(b) Use the graph to find an estimate for the median height of the plants.

..... cm

(1)

(Total for Question 5 is 3 marks)

Summer 2021 Paper 2 Q8

6 The grouped frequency table gives information about the time, in minutes, taken by 50 people to solve a puzzle.

Time (t minutes)	Frequency
$0 < t \leqslant 10$	5
$10 < t \leqslant 20$	8
$20 < t \leqslant 30$	12
$30 < t \leqslant 40$	15
$40 < t \leqslant 50$	7
$50 < t \leqslant 60$	3

Brian was asked to draw a cumulative frequency table for this information.

This is the table that Brian drew.

Time (t minutes)	Cumulative frequency
$0 < t \leqslant 10$	5
$10 < t \leqslant 20$	13
$20 < t \leqslant 30$	25
$30 < t \leqslant 40$	40
$40 < t \leqslant 50$	47
$50 < t \leqslant 60$	50

Write down **one** thing that is wrong with this cumulative frequency table.

.....

.....

.....

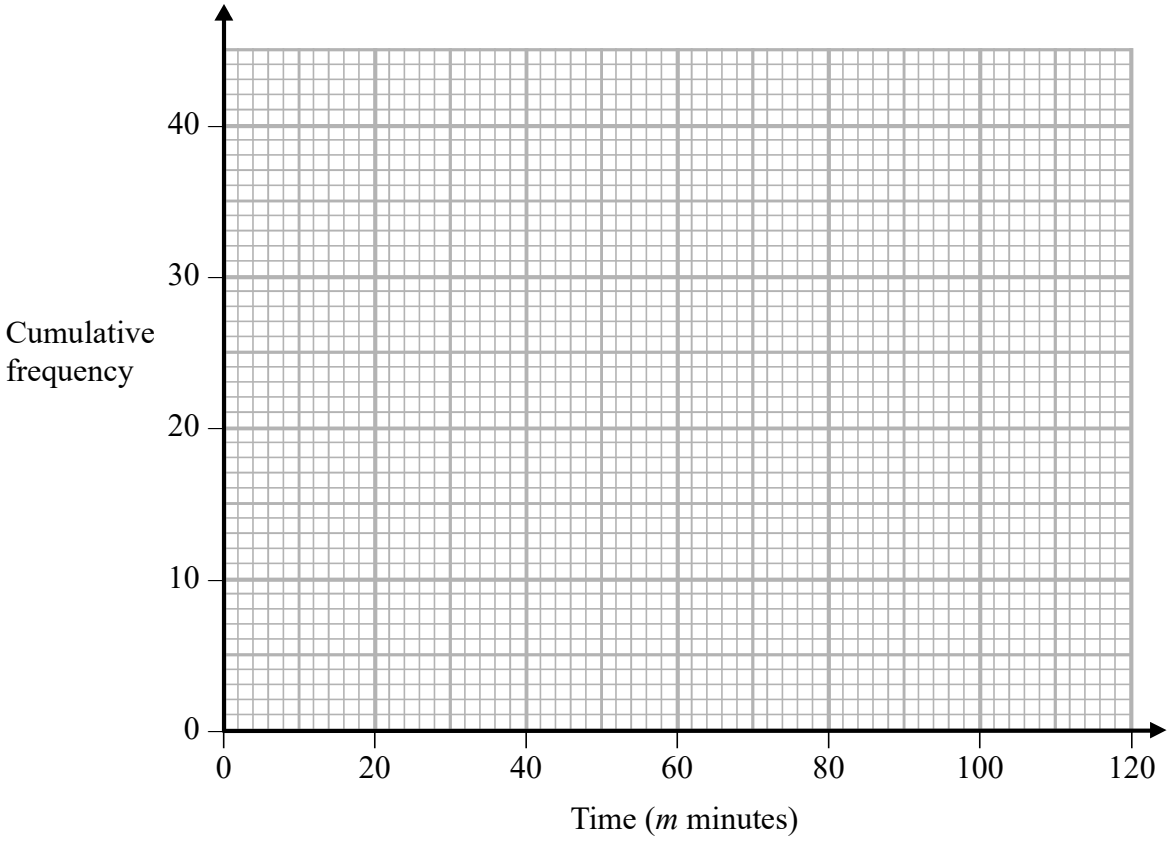
(Total for Question 6 is 1 mark)

Autumn 2019 Paper 1 Q10

7 The cumulative frequency table shows information about the times, in minutes, taken by 40 people to complete a puzzle.

Time (m minutes)	**Cumulative frequency**
$20 < m \leqslant 40$	5
$20 < m \leqslant 60$	25
$20 < m \leqslant 80$	35
$20 < m \leqslant 100$	38
$20 < m \leqslant 120$	40

(a) On the grid below, draw a cumulative frequency graph for this information.



(2)

(b) Use your graph to find an estimate for the interquartile range.

..... minutes

(2)

One of the 40 people is chosen at random.

(c) Use your graph to find an estimate for the probability that this person took between 50 minutes and 90 minutes to complete the puzzle.

.....

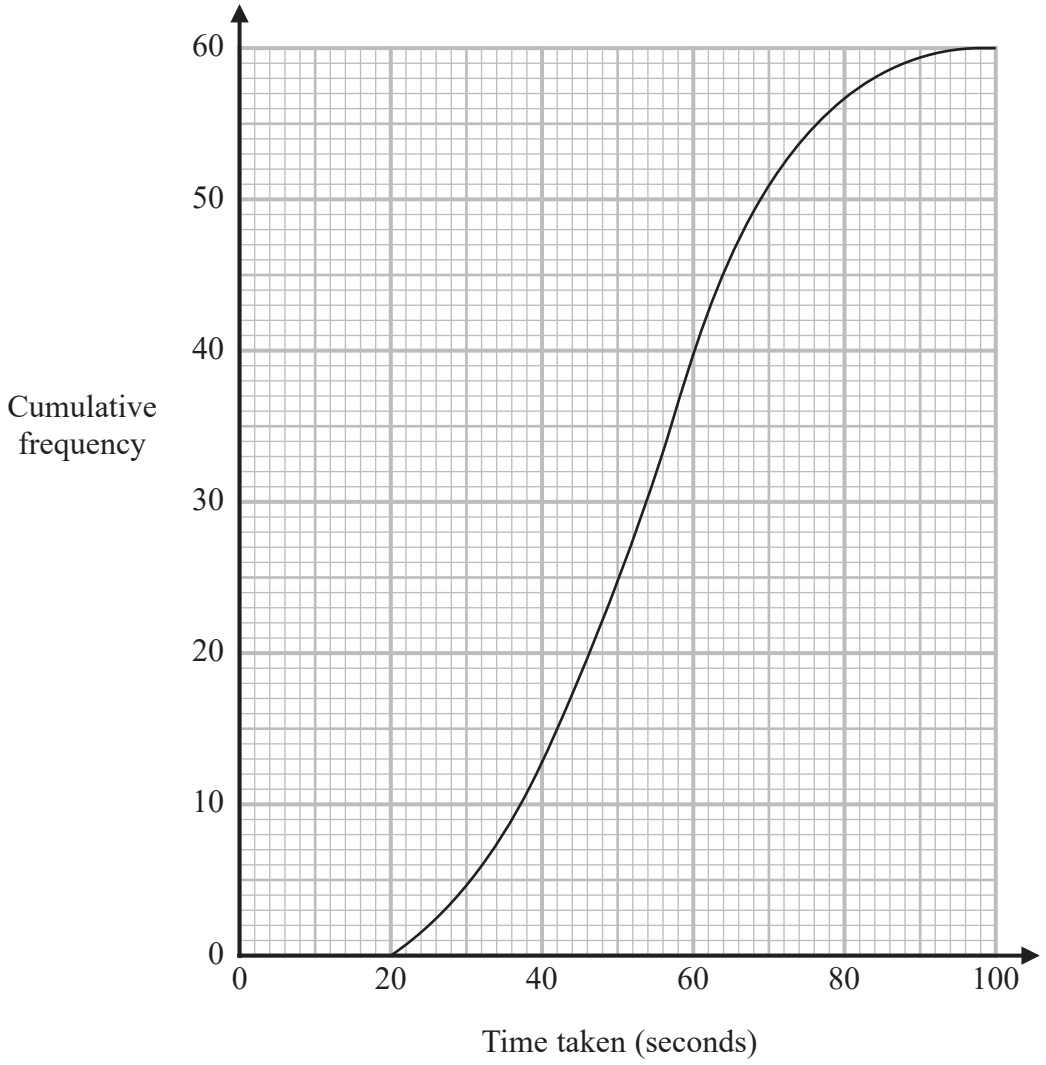
(2)

(Total for Question 7 is 6 marks)

Autumn 2022 Paper 2 Q11

8 In an experiment, 60 students each completed a puzzle.

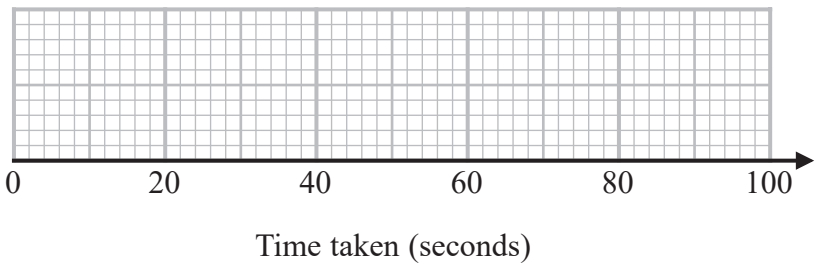
The cumulative frequency graph shows information about the times taken for the 60 students to complete the puzzle.



For these 60 students,

the least time taken was 24 seconds
the greatest time taken was 96 seconds.

On the grid below, draw a box plot for the distribution of the times taken by the students.



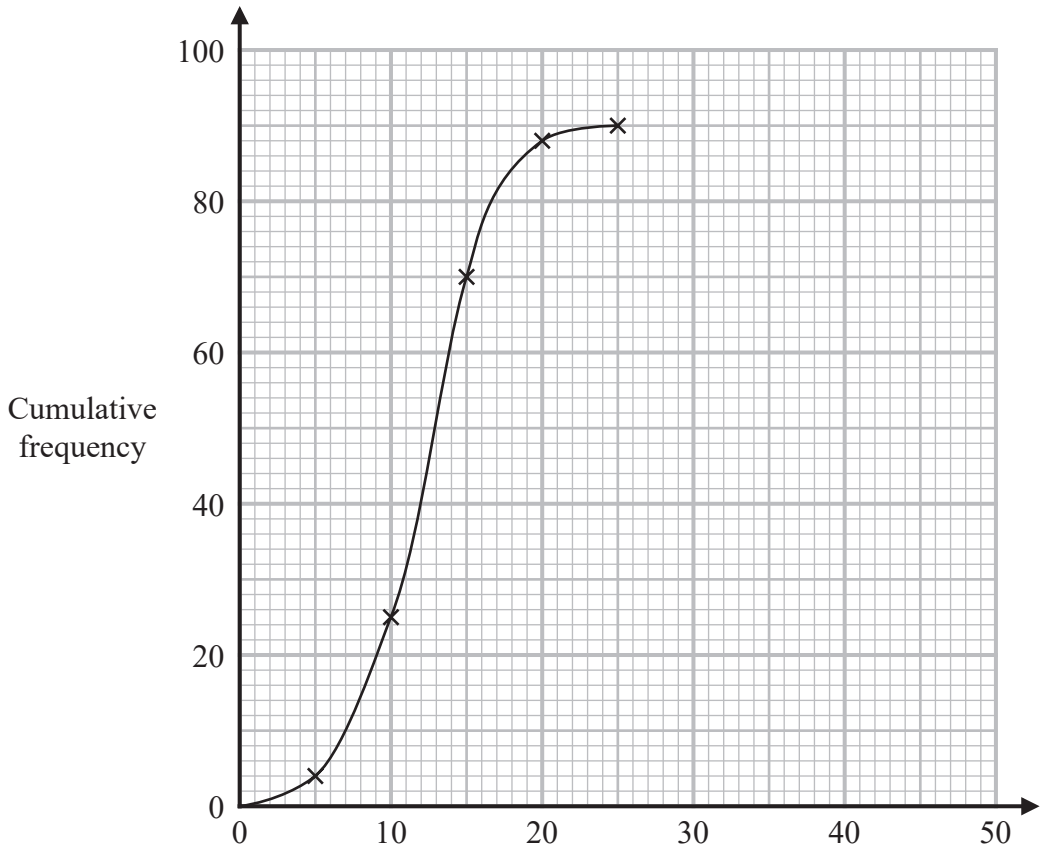
(Total for Question 8 is 3 marks)

Autumn 2022 Paper 3 Q13

9 Chen has this information about the time that it took an operator at a call centre to answer each of 90 calls.

Time (t seconds)	**Cumulative frequency**
$0 < t \leqslant 10$	4
$0 < t \leqslant 20$	25
$0 < t \leqslant 30$	70
$0 < t \leqslant 40$	88
$0 < t \leqslant 50$	90

Chen draws this cumulative frequency graph for the information in the table.



Write down two different things that are wrong with this graph.

1 .....

.....

2 .....

.....

(Total for Question 9 is 2 marks)

Summer 2022 Paper 1 Q10

10 The table shows some information about the profit made each day at a cricket club on 100 days.

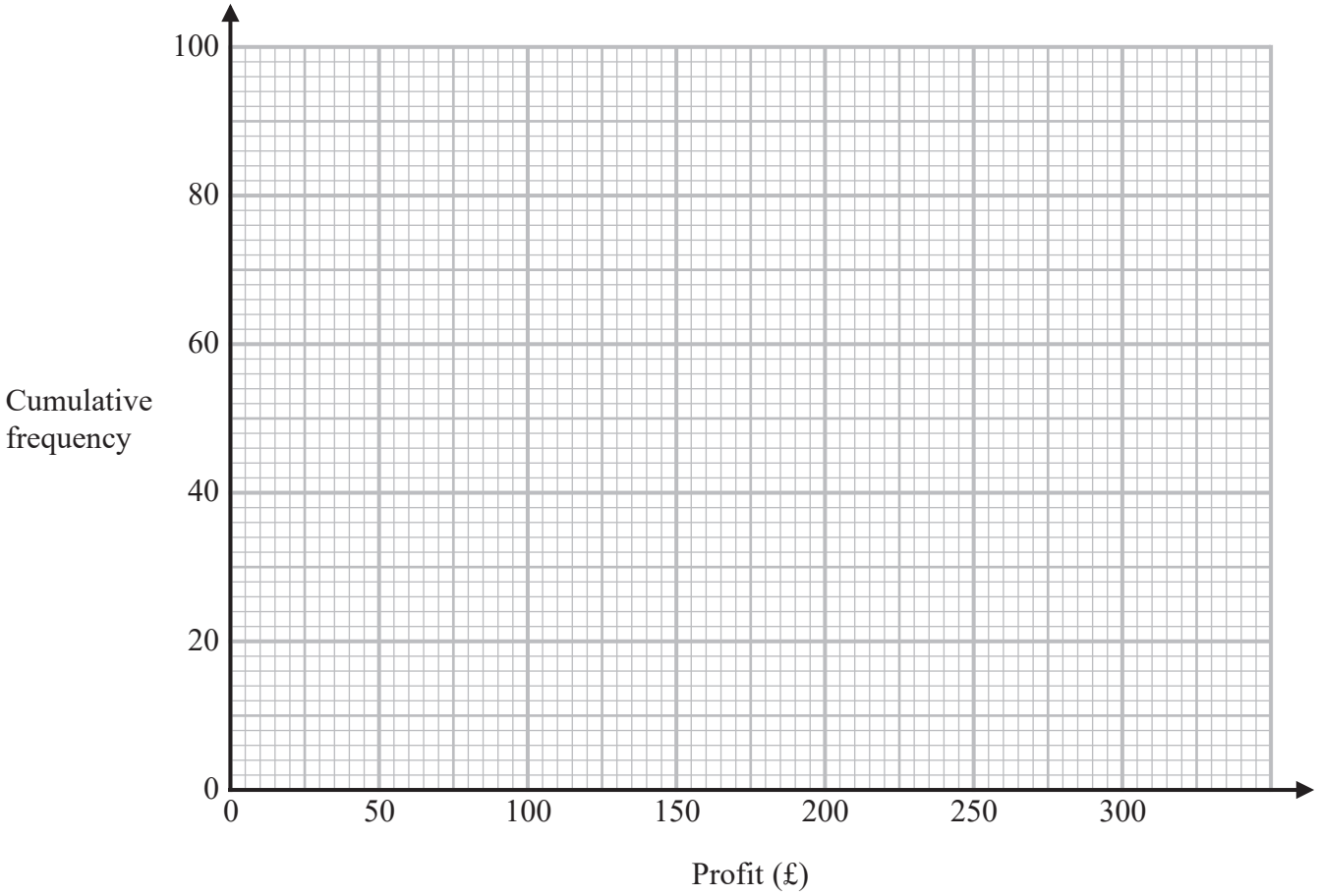
Profit (£x)	**Frequency**
$0 \leqslant x < 50$	10
$50 \leqslant x < 100$	15
$100 \leqslant x < 150$	25
$150 \leqslant x < 200$	30
$200 \leqslant x < 250$	5
$250 \leqslant x < 300$	15

(a) Complete the cumulative frequency table.

Profit (£x)	**Cumulative frequency**
$0 \leqslant x < 50$	
$0 \leqslant x < 100$	
$0 \leqslant x < 150$	
$0 \leqslant x < 200$	
$0 \leqslant x < 250$	
$0 \leqslant x < 300$	

(1)

(b) On the grid, draw a cumulative frequency graph for this information.



(2)

(c) Use your graph to find an estimate for the number of days on which the profit was less than £125

..... days

(1)

(d) Use your graph to find an estimate for the interquartile range.

£.....

(2)

(Total for Question 10 is 6 marks)