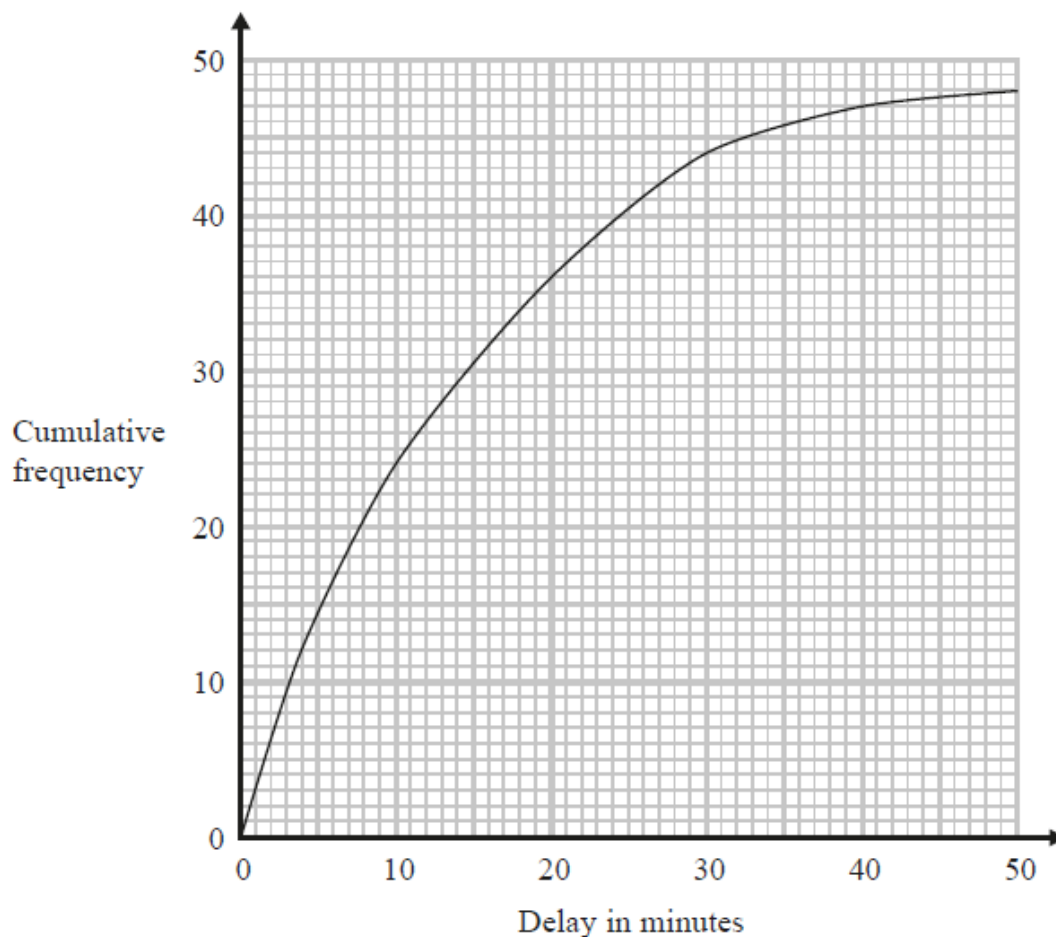


## Questions

Q1.

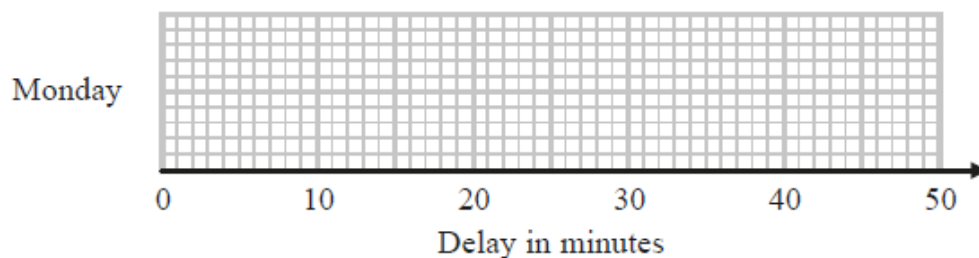
The times that 48 trains left a station on Monday were recorded.

The cumulative frequency graph gives information about the numbers of minutes the trains were delayed, correct to the nearest minute.



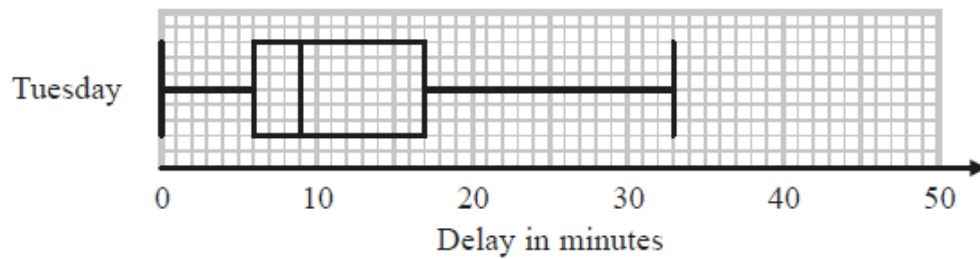
The shortest delay was 0 minutes.  
The longest delay was 42 minutes.

(a) On the grid below, draw a box plot for the information about the delays on Monday.



(3)

48 trains left the station on Tuesday.  
The box plot below gives information about the delays on Tuesday.



(b) Compare the distribution of the delays on Monday with the distribution of the delays on Tuesday.

.....

.....

.....

.....

(2)

Mary says,

"The longest delay on Tuesday was 33 minutes.  
This means that there must be some delays of between 25 minutes and 30 minutes."

(c) Is Mary right?

You must give a reason for your answer.

.....

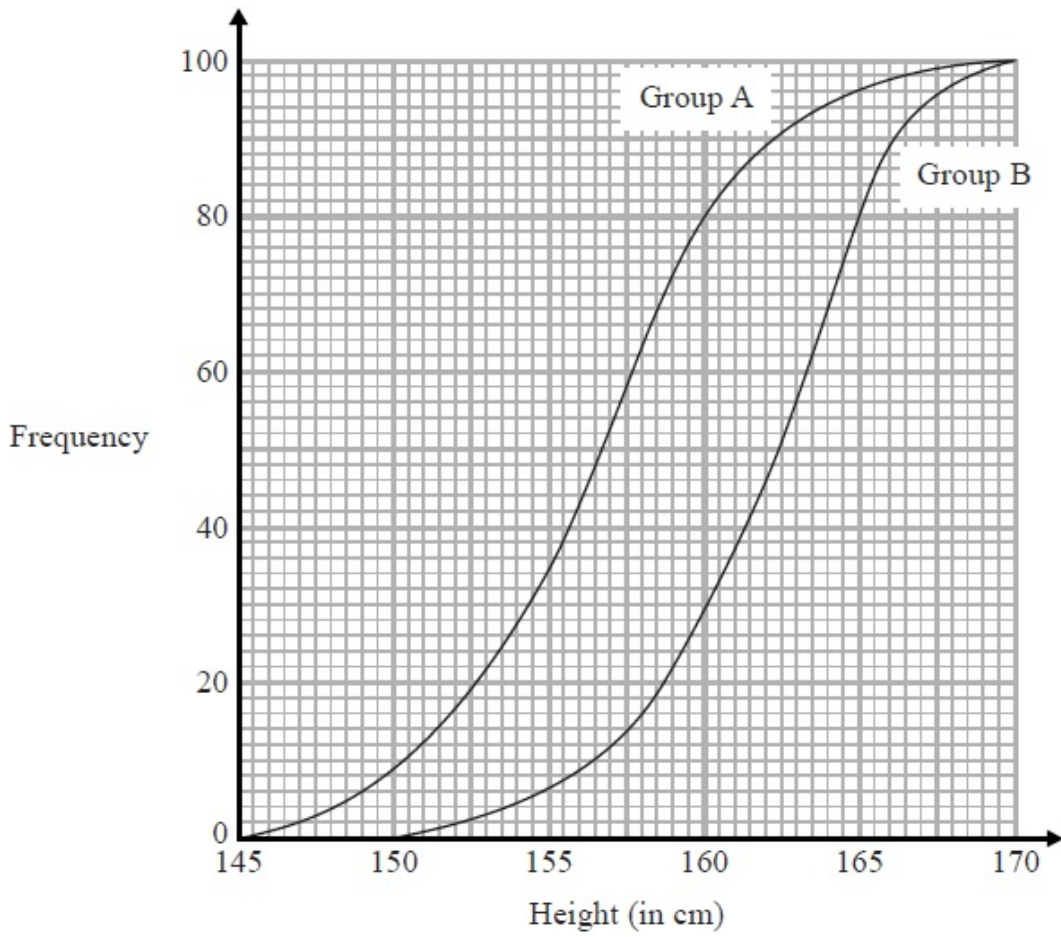
.....

(1)

**(Total for question = 6 marks)**

Q2.

The cumulative frequency graphs give information about the heights of two groups of children, group A and group B.



Compare the heights of the children in group A and the heights of the children in group B.

.....

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**(Total for Question is 2 marks)**

Q3.

Lyndsey records the number of miles ( $m$ ) she drives each day for 120 days.

Some information about the results is given in the table.

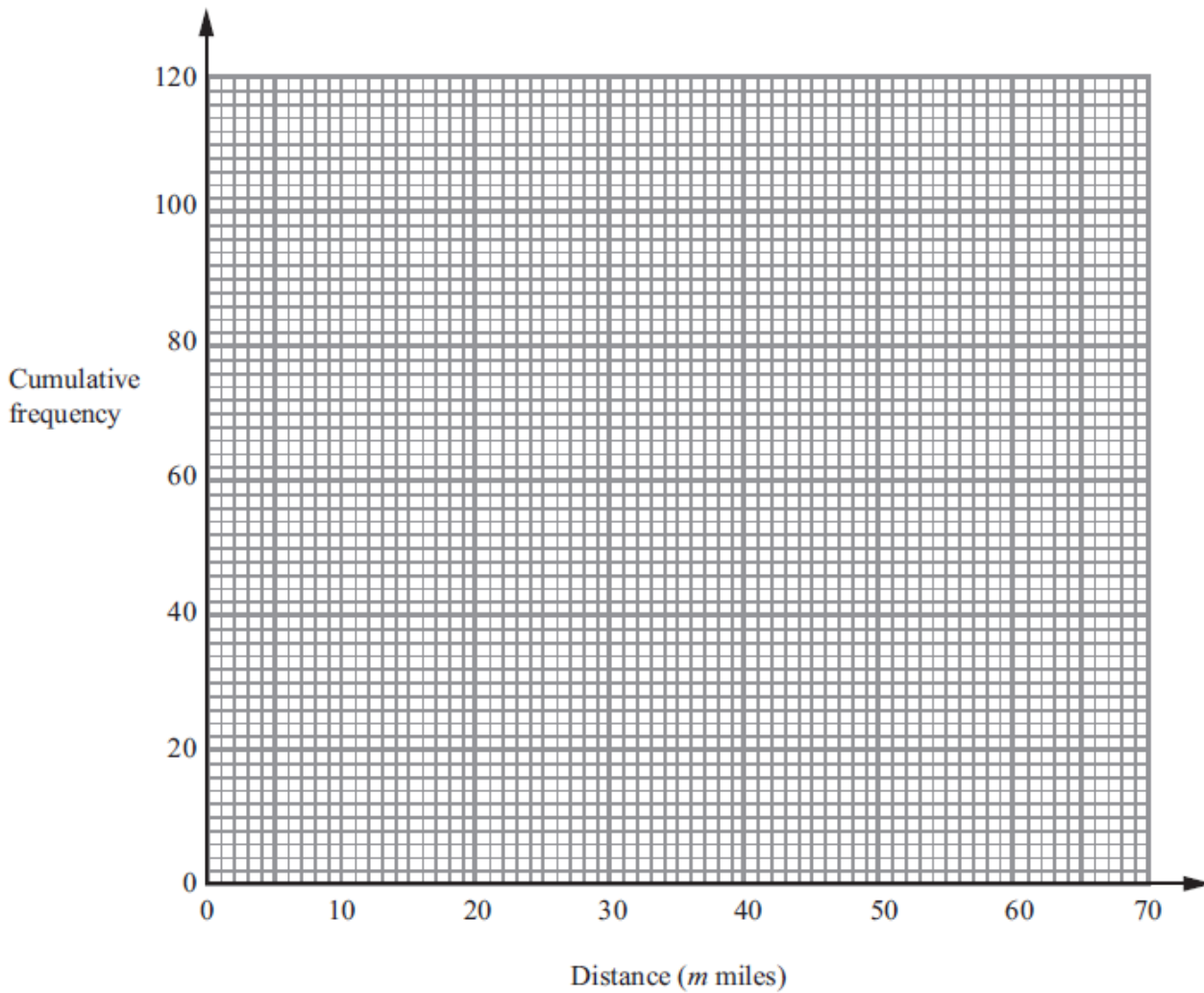
Distance ( $m$ miles)	Frequency
$0 < m \leq 10$	4
$10 < m \leq 20$	18
$20 < m \leq 30$	24
$30 < m \leq 40$	40
$40 < m \leq 50$	24
$50 < m \leq 60$	10

(a) Complete the cumulative frequency table.

Distance ( $m$ miles)	Cumulative frequency
$0 < m \leq 10$	
$0 < m \leq 20$	
$0 < m \leq 30$	
$0 < m \leq 40$	
$0 < m \leq 50$	
$0 < m \leq 60$	

(1)

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



(2)

(c) Work out an estimate for the number of days on which Lyndsey drives more than 36 miles.

.....days

(2)

**(Total for Question is 5 marks)**

Q4.

The table shows information about the lengths, in seconds, of 40 TV adverts.

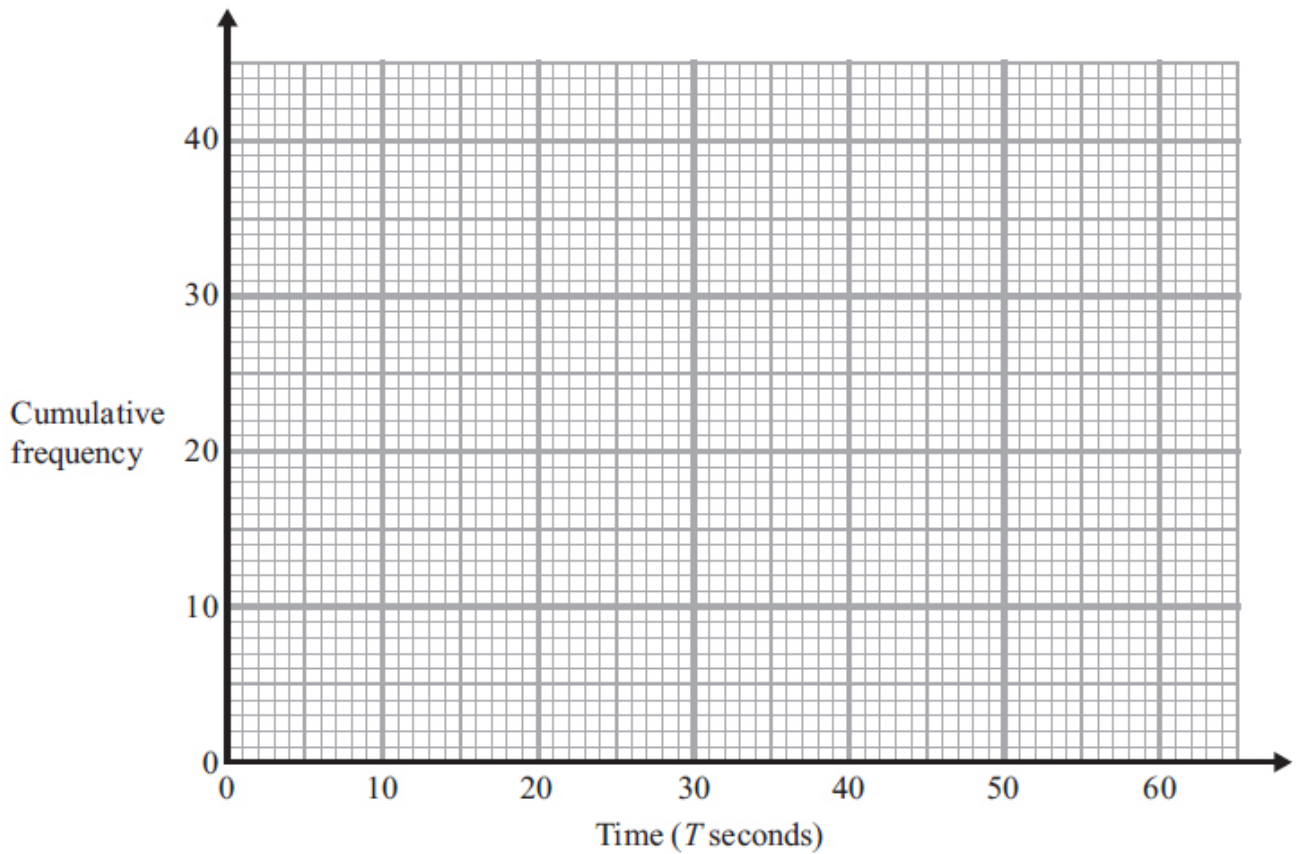
Time ( $T$ seconds)	Frequency
$10 < T \leq 20$	4
$20 < T \leq 30$	7
$30 < T \leq 40$	13
$40 < T \leq 50$	12
$50 < T \leq 60$	4

(a) Complete the cumulative frequency table for this information.

Time ( $T$ seconds)	Cumulative frequency
$10 < T \leq 20$	4
$10 < T \leq 30$	
$10 < T \leq 40$	
$10 < T \leq 50$	
$10 < T \leq 60$	

(1)

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



(2)

(c) Use your graph to find an estimate for the median length of these TV adverts.

..... seconds

(1)

**(Total for Question is 4 marks)**

Q5.

The table shows information about the heights of 40 plants.

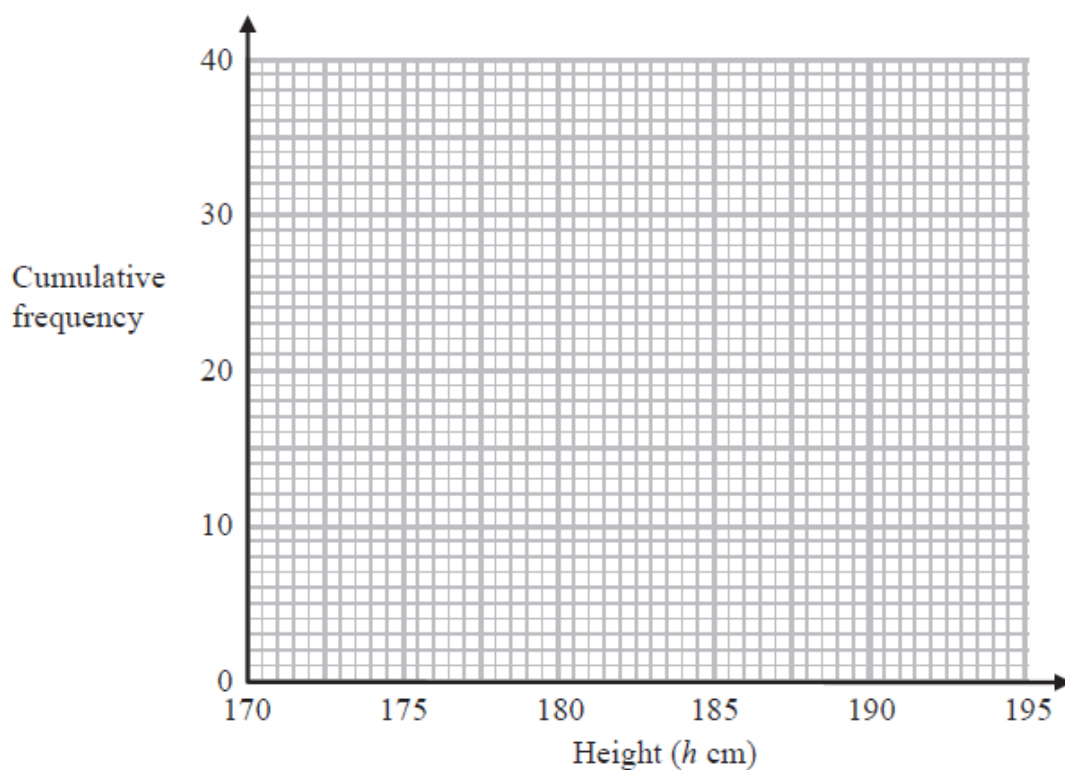
Height ( $h$ cm)	Frequency
$170 < h \leq 175$	5
$175 < h \leq 180$	18
$180 < h \leq 185$	12
$185 < h \leq 190$	4
$190 < h \leq 195$	1

(a) Complete the cumulative frequency table.

Height ( $h$ cm)	Cumulative frequency
$170 < h \leq 175$	
$170 < h \leq 180$	
$170 < h \leq 185$	
$170 < h \leq 190$	
$170 < h \leq 195$	

(1)

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



(2)

(c) Find an estimate for the number of plants with a height greater than 187 cm.

.....

(2)

**(Total for question = 5 marks)**

Q6.

Sue works for a company that delivers parcels.

One day the company delivered 80 parcels.

The table shows information about the weights, in kg, of these parcels.

Weight ( $w$ kg)	Frequency
$0 < w \leq 1$	19
$1 < w \leq 2$	17
$2 < w \leq 3$	15
$3 < w \leq 4$	12
$4 < w \leq 5$	10
$5 < w \leq 6$	7

(a) Complete the cumulative frequency table.

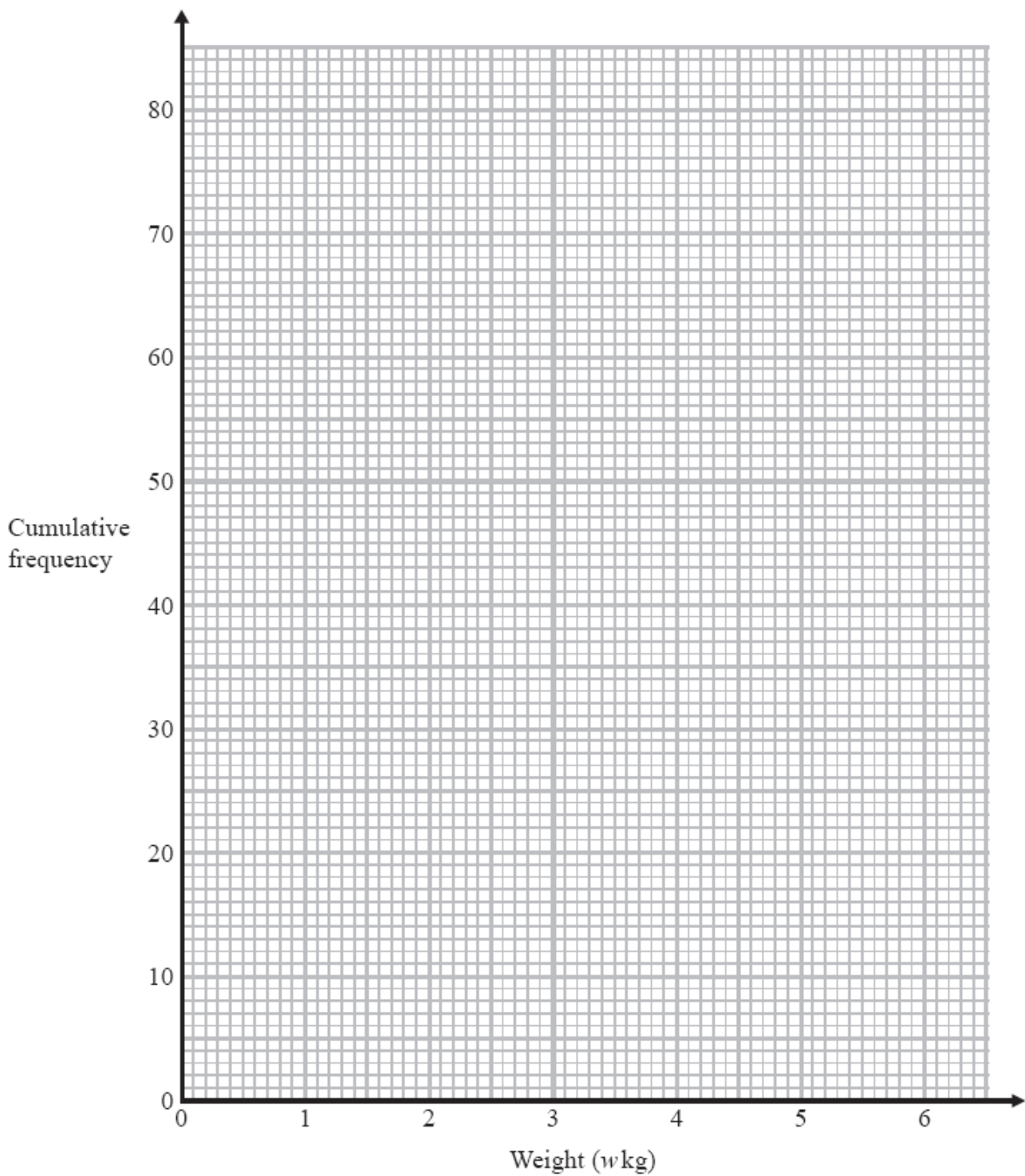
Weight ( $w$ kg)	Cumulative frequency
$0 < w \leq 1$	
$0 < w \leq 2$	
$0 < w \leq 3$	
$0 < w \leq 4$	
$0 < w \leq 5$	
$0 < w \leq 6$	

(1)

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

(2)





Sue says,

"75 % of the parcels weigh less than 3.4 kg."

\*(c) Is Sue correct?

You must show how you get your answer.

(3)

**(Total for question = 6 marks)**

Q7.

The table shows information about the times taken by 100 people in a fun run.

<b>Time (<math>t</math> minutes)</b>	<b>Frequency</b>
$20 < t \leq 30$	4
$30 < t \leq 40$	16
$40 < t \leq 50$	36
$50 < t \leq 60$	24
$60 < t \leq 70$	14
$70 < t \leq 80$	6

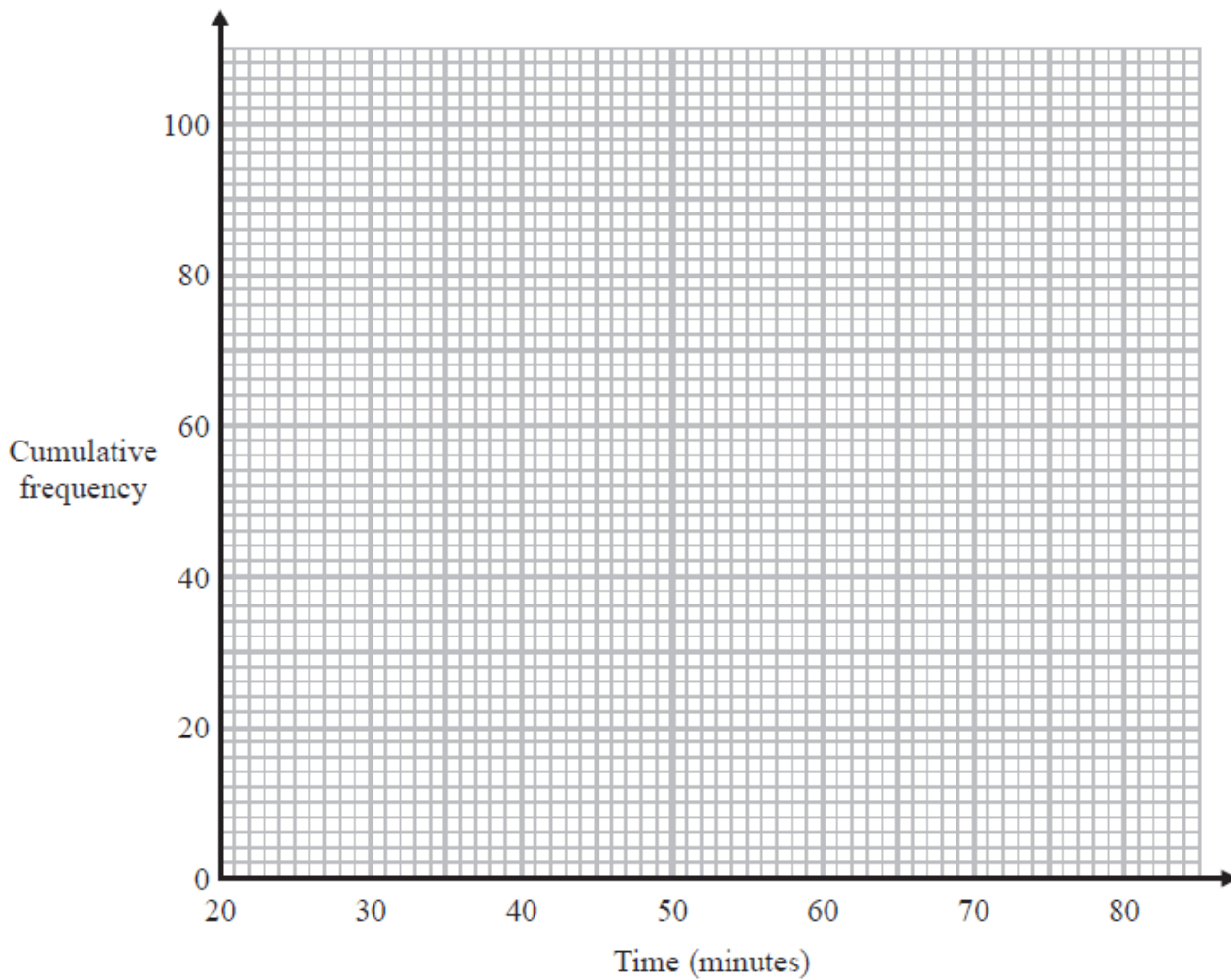
(a) Complete the cumulative frequency table for this information.

<b>Time (<math>t</math> minutes)</b>	<b>Cumulative frequency</b>
$20 < t \leq 30$	
$20 < t \leq 40$	
$20 < t \leq 50$	
$20 < t \leq 60$	
$20 < t \leq 70$	
$20 < t \leq 80$	

(1)

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

(2)



(c) Use your graph to find an estimate for the median time.

..... minutes

(1)

(d) Use your graph to find an estimate for the number of people who took longer than 63 minutes.

.....

(2)

**(Total for question = 6 marks)**

Q8.

The grouped frequency table shows information about the weekly wages of 80 factory workers.

<b>Weekly wage (£x)</b>	<b>Frequency</b>
$100 < x \leq 200$	8
$200 < x \leq 300$	15
$300 < x \leq 400$	30

$400 < x \leq 500$	17
$500 < x \leq 600$	7
$600 < x \leq 700$	3

(a) Complete the cumulative frequency table.

<b>Weekly wage (£x)</b>	<b>Cumulative Frequency</b>
$100 < x \leq 200$	
$200 < x \leq 300$	
$300 < x \leq 400$	
$400 < x \leq 500$	
$500 < x \leq 600$	
$600 < x \leq 700$	

(1)

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

(2)

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

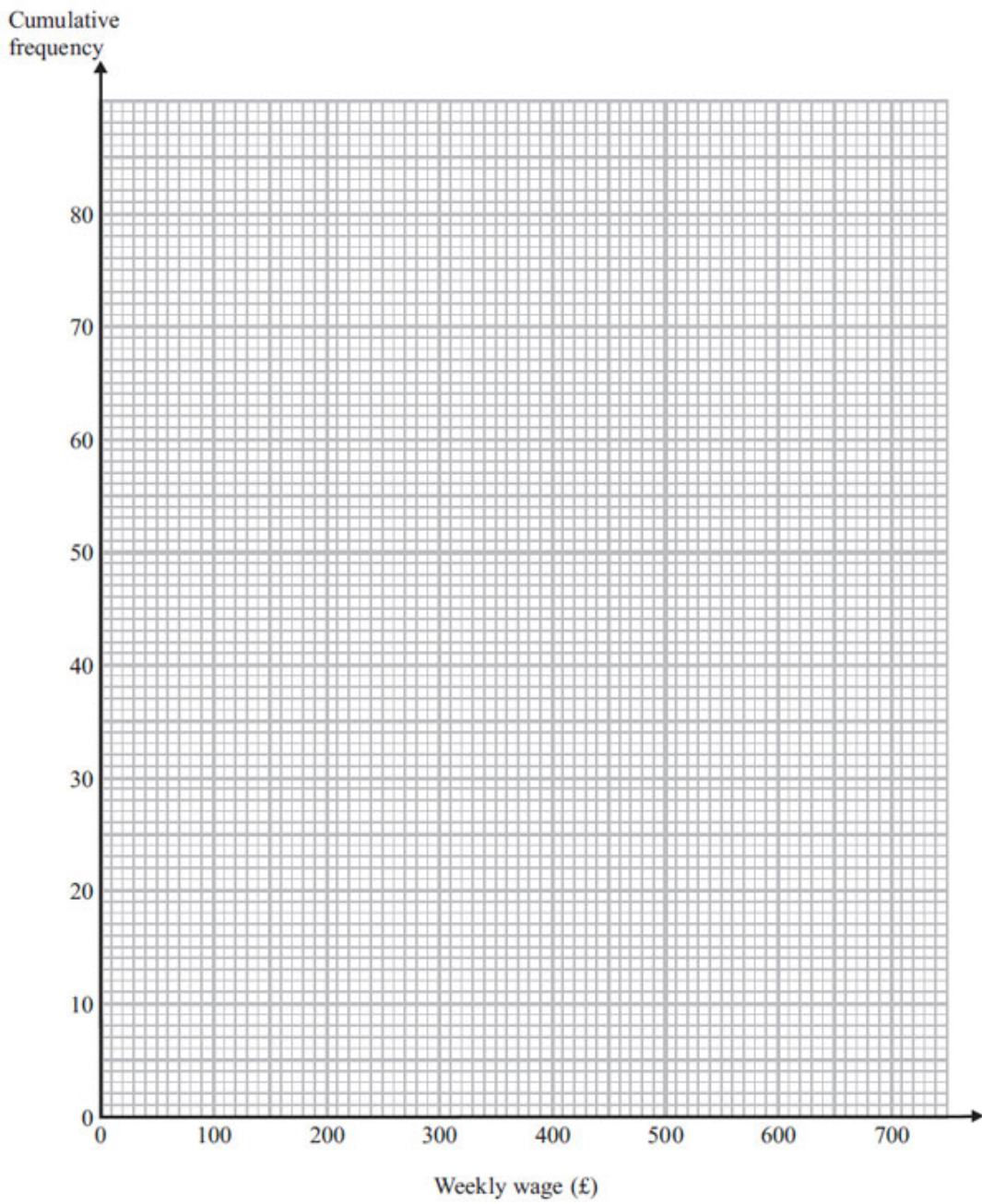
£ .....

(2)

(d) Use your graph to find an estimate for the number of workers with a weekly wage of more than £530

.....

(2)



**(Total for Question is 7 marks)**