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

Time (t minutes)	Frequency
$20 < t \leqslant 30$	4
$30 < t \leqslant 40$	16
$40 < t \leqslant 50$	36
$50 < t \leqslant 60$	24
$60 < t \leqslant 70$	14
$70 < t \leqslant 80$	6

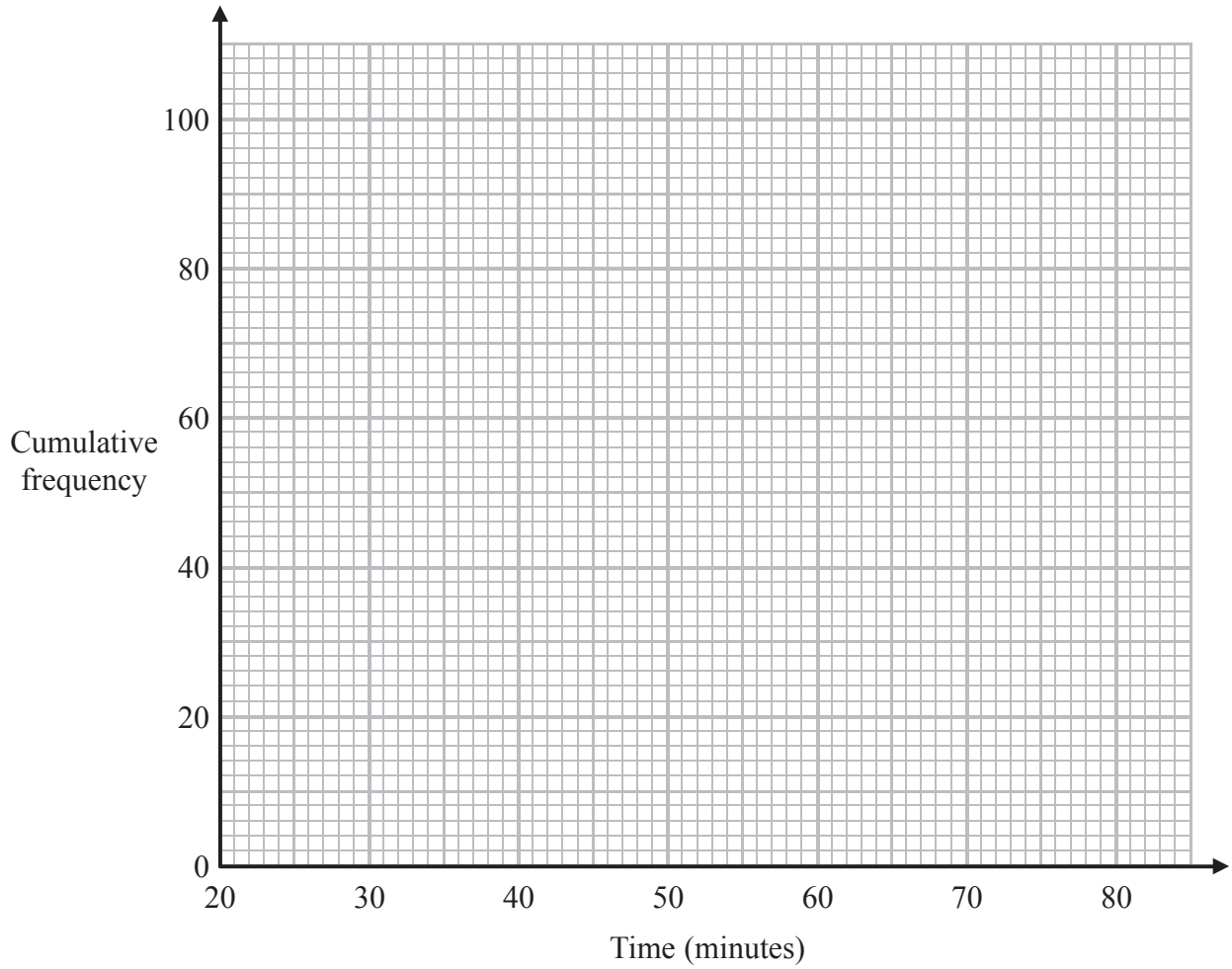
(a) Complete the cumulative frequency table for this information.

Time (t minutes)	Cumulative frequency
$20 < t \leqslant 30$	
$20 < t \leqslant 40$	
$20 < t \leqslant 50$	
$20 < t \leqslant 60$	
$20 < t \leqslant 70$	
$20 < t \leqslant 80$	

(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 1 is 6 marks)

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

Weekly wage (£x)	Frequency
$100 < x \leqslant 200$	8
$200 < x \leqslant 300$	15
$300 < x \leqslant 400$	30
$400 < x \leqslant 500$	17
$500 < x \leqslant 600$	7
$600 < x \leqslant 700$	3

(a) Complete the cumulative frequency table.

Weekly wage (£x)	Cumulative Frequency
$100 < x \leqslant 200$	
$100 < x \leqslant 300$	
$100 < x \leqslant 400$	
$100 < x \leqslant 500$	
$100 < x \leqslant 600$	
$100 < x \leqslant 700$	

(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.

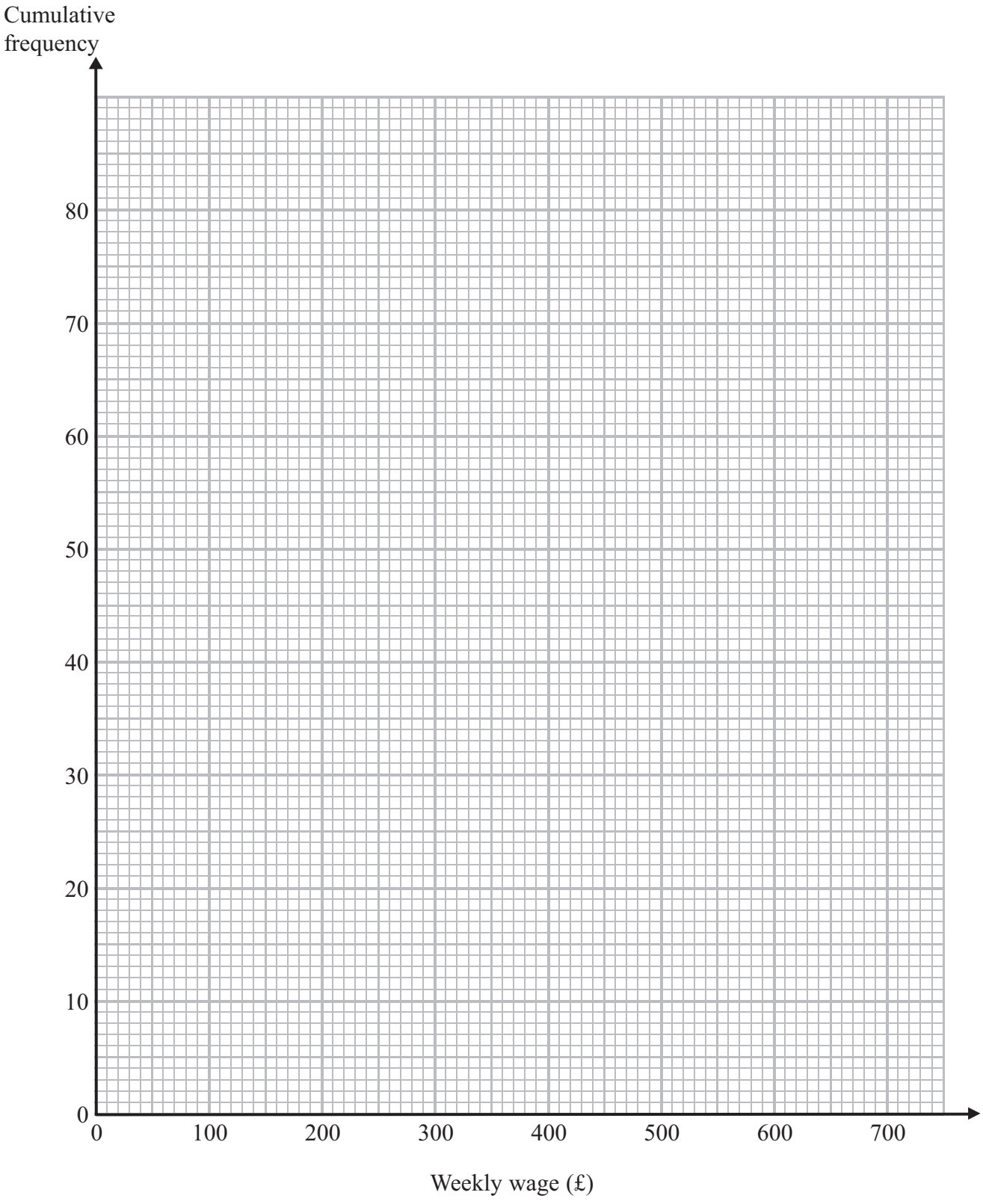
£ .....

(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 2 is 7 marks)

3 There are 200 workers at a factory.

The cumulative frequency table gives information about their ages.

Age (a years)	Cumulative frequency
$0 < a \leqslant 20$	25
$0 < a \leqslant 30$	70
$0 < a \leqslant 40$	138
$0 < a \leqslant 50$	175
$0 < a \leqslant 60$	186
$0 < a \leqslant 70$	194
$0 < a \leqslant 80$	200

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

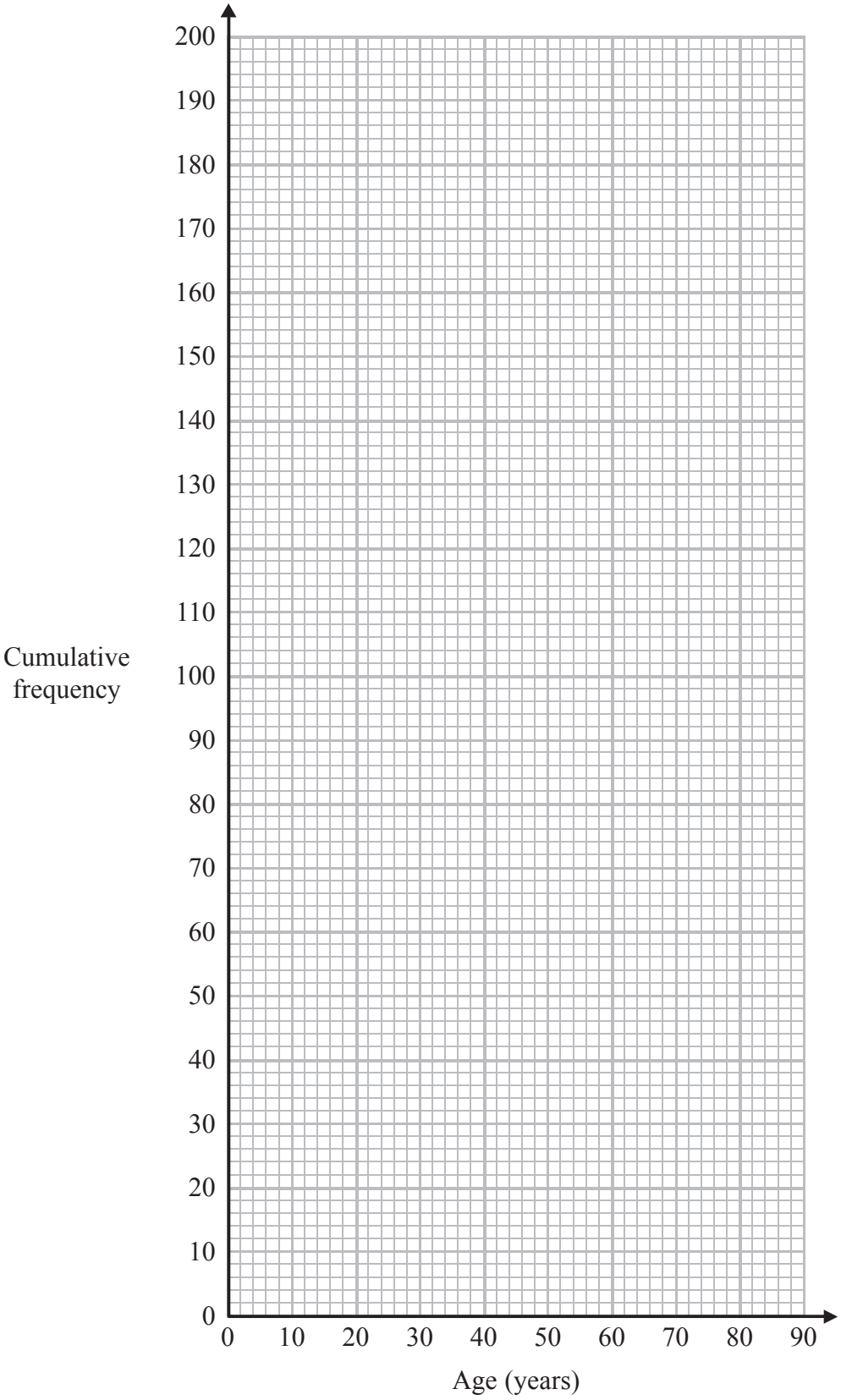
(2)

(b) Graham says,

"10% of workers at the factory are older than 65"

Is Graham correct?
You must show how you get your answer.

(2)



(Total for Question 3 is 4 marks)

4 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
$0 < w \leqslant 1$	19
$1 < w \leqslant 2$	17
$2 < w \leqslant 3$	15
$3 < w \leqslant 4$	12
$4 < w \leqslant 5$	10
$5 < w \leqslant 6$	7

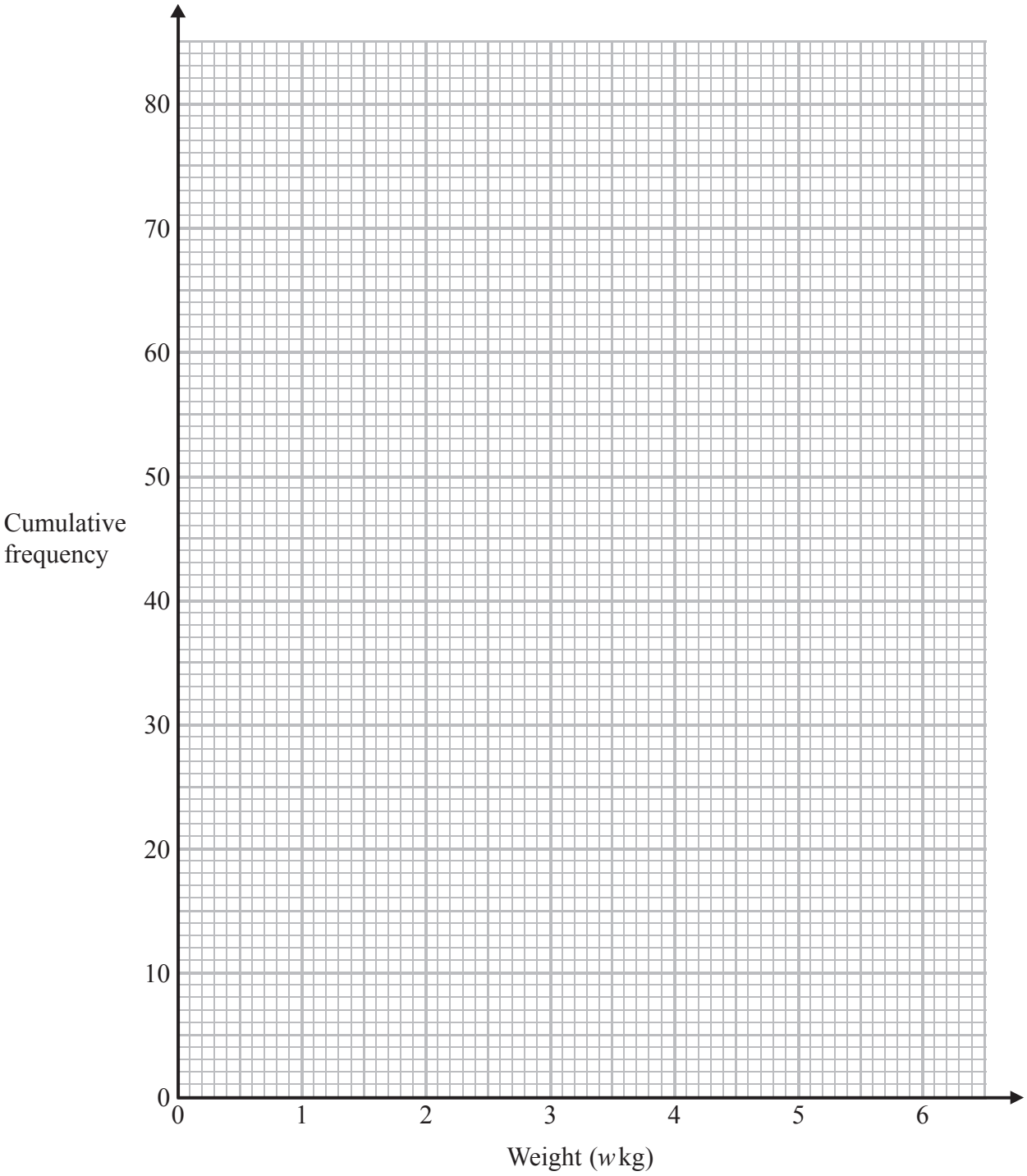
(a) Complete the cumulative frequency table.

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

(1)

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

(2)



Sue says,

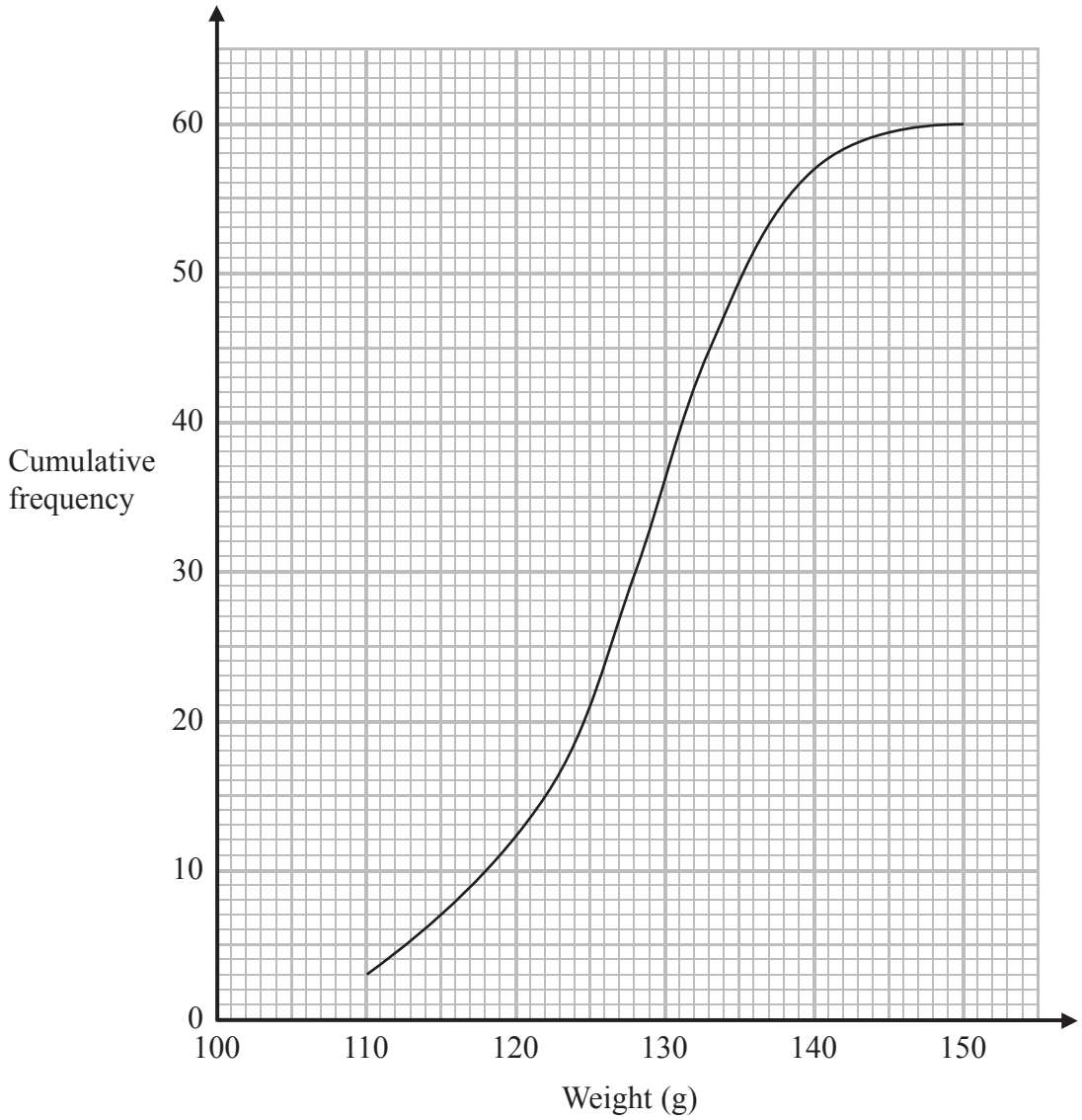
"75% of the parcels weigh less than 3.4 kg."

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

(3)

(Total for Question 4 is 6 marks)

5 The cumulative frequency graph shows information about the weights of 60 apples.



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

.....g

(1)

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

.....g

(2)

(Total for Question 5 is 3 marks)

6 This frequency table gives information about the ages of 60 teachers.

Age (A) in years	Frequency
$20 < A \leqslant 30$	12
$30 < A \leqslant 40$	15
$40 < A \leqslant 50$	18
$50 < A \leqslant 60$	12
$60 < A \leqslant 70$	3

(a) Complete the cumulative frequency table.

Age (A) in years	Cumulative frequency
$20 < A \leqslant 30$	
$20 < A \leqslant 40$	
$20 < A \leqslant 50$	
$20 < A \leqslant 60$	
$20 < A \leqslant 70$	

(1)

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

(2)

(c) Use your cumulative frequency graph to find an estimate for the median age.

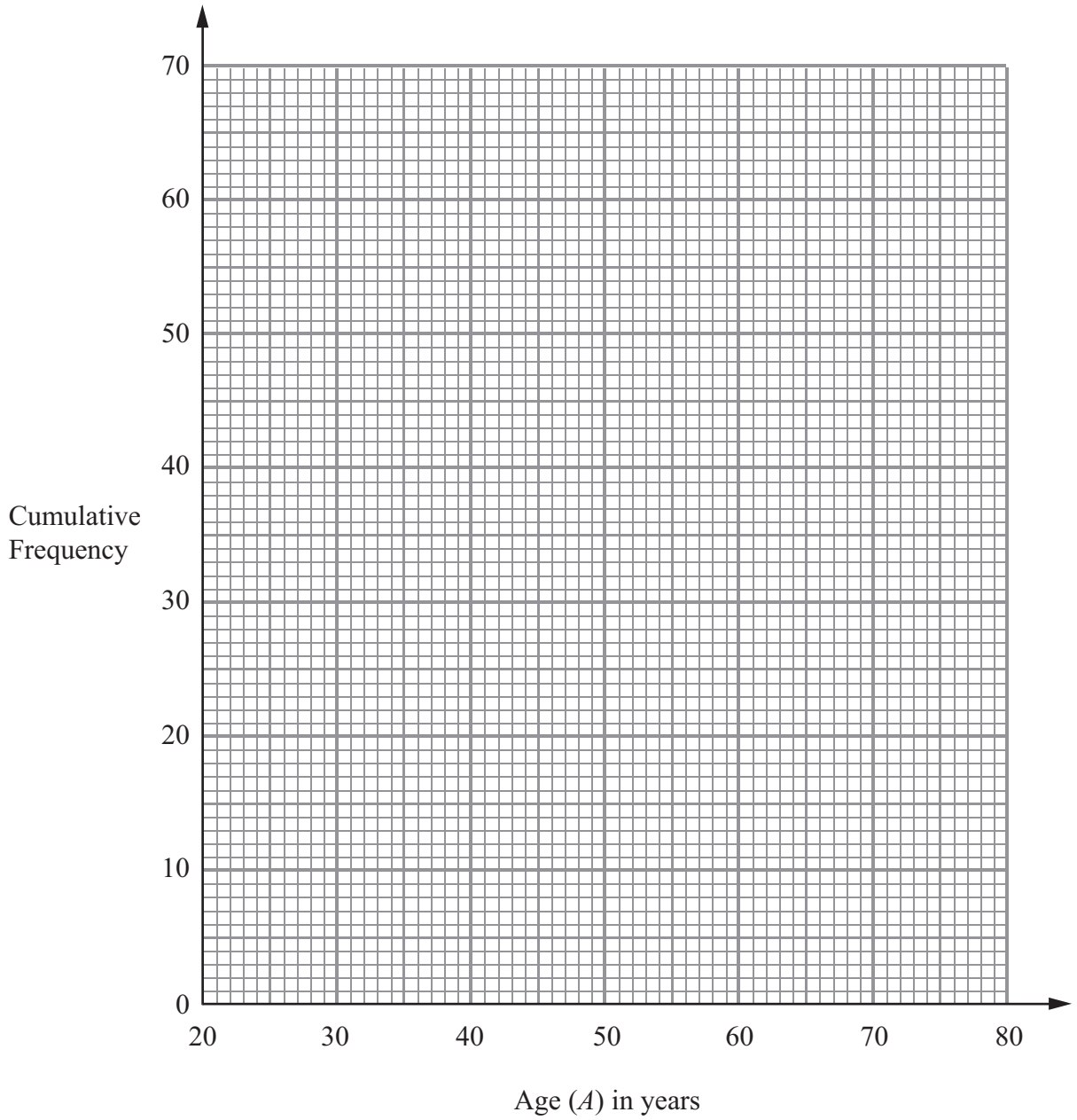
..... years

(2)

(d) Use your cumulative frequency graph to find an estimate for the number of teachers older than 55 years.

.....

(2)



(Total 7 marks)

7 The table shows information about the time, m minutes, it takes to show each of 120 films.

Time (m minutes)	Frequency
$70 < m \leqslant 80$	4
$80 < m \leqslant 90$	12
$90 < m \leqslant 100$	34
$100 < m \leqslant 110$	32
$110 < m \leqslant 120$	26
$120 < m \leqslant 130$	12

(a) Write down the modal class interval.

.....

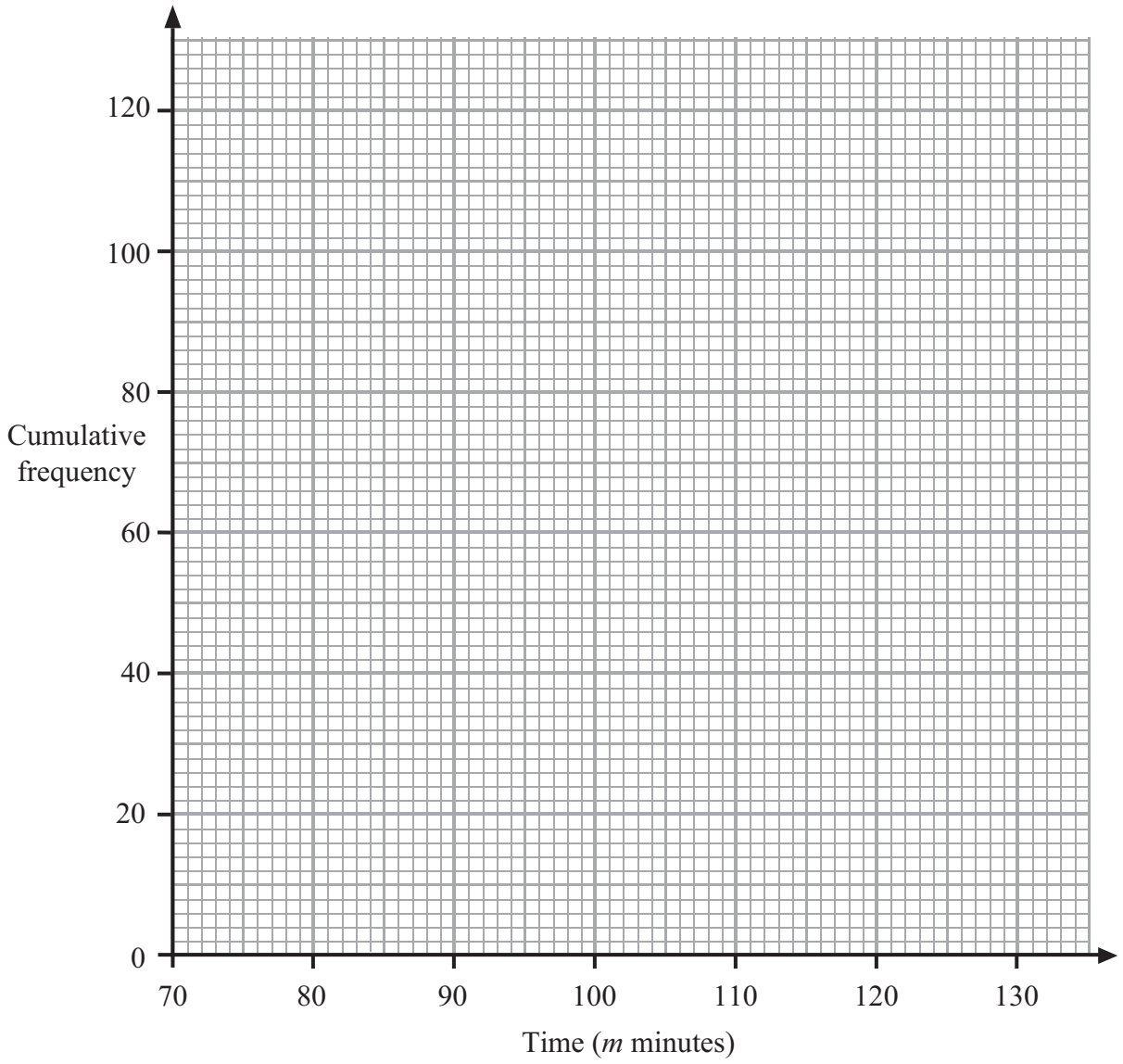
(1)

(b) Complete the cumulative frequency table.

Time (m minutes)	Cumulative frequency
$70 < m \leqslant 80$	4
$70 < m \leqslant 90$	
$70 < m \leqslant 100$	
$70 < m \leqslant 110$	
$70 < m \leqslant 120$	
$70 < m \leqslant 130$	

(1)

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



(2)

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

..... minutes

(1)

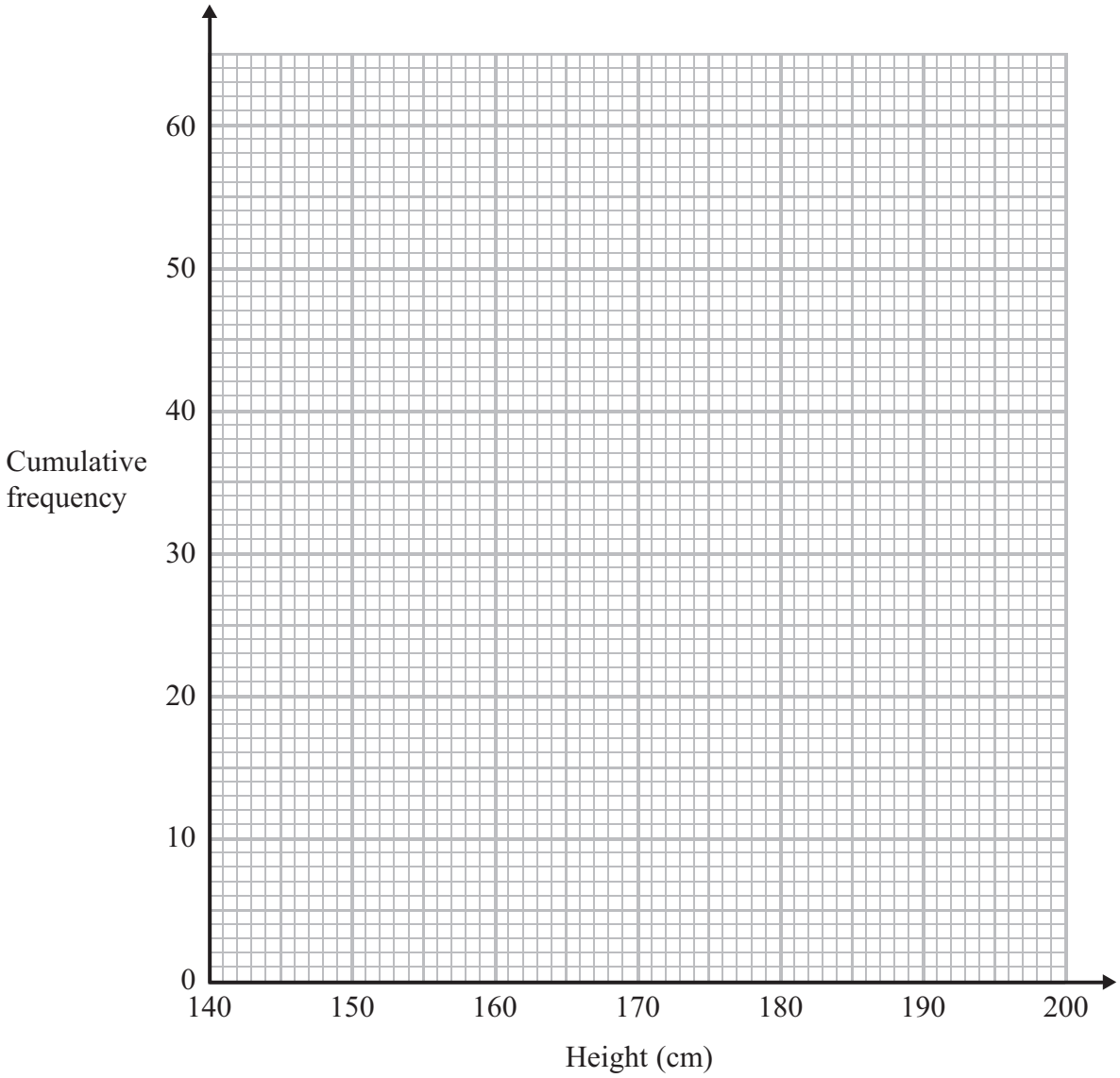
(Total 5 marks)

8 The table below shows information about the heights of 60 students.

Height (x cm)	**Number of students**
$140 < x \leqslant 150$	4
$150 < x \leqslant 160$	5
$160 < x \leqslant 170$	16
$170 < x \leqslant 180$	27
$180 < x \leqslant 190$	5
$190 < x \leqslant 200$	3

(a) On the grid opposite, draw a cumulative frequency graph for the information in the table.

(3)



(b) Find an estimate

(i) for the median,

..... cm

(ii) for the interquartile range.

..... cm

(3)

(Total for Question 8 is 6 marks)