

Cumulative Frequency Graphs

1.

The table shows information about the heights of 40 bushes.

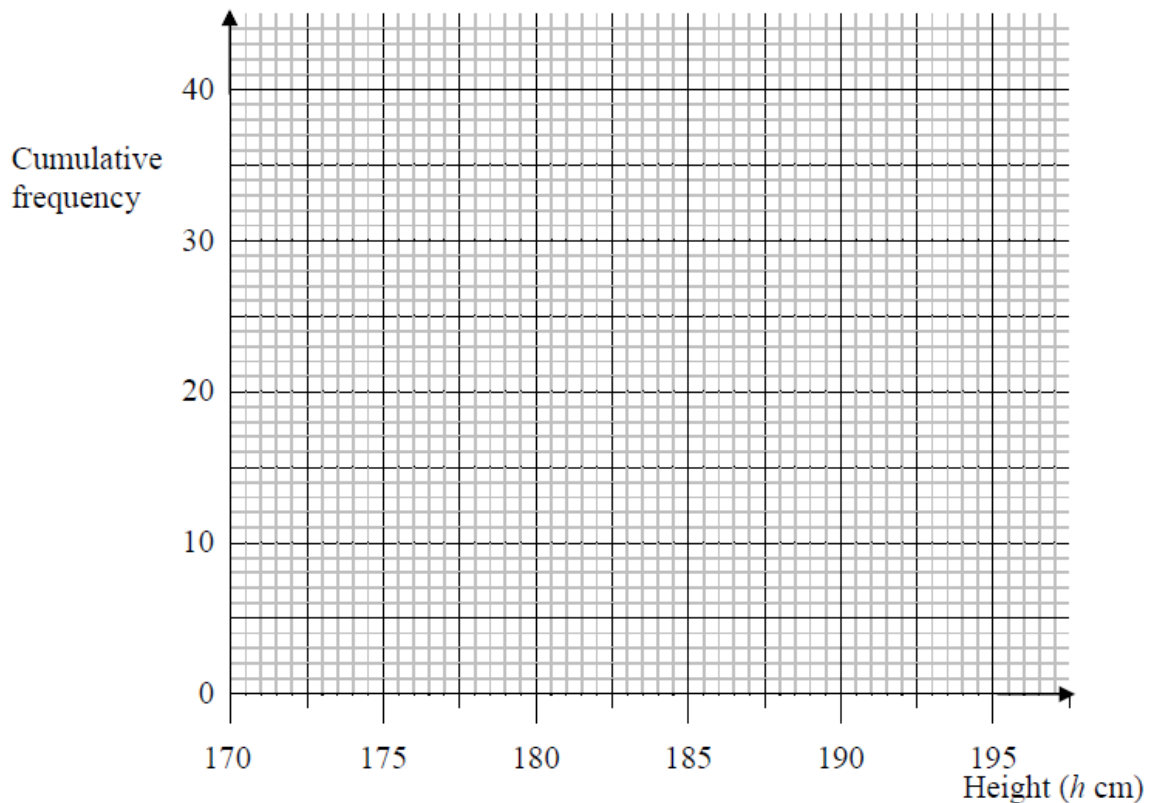
Height (h cm)	Frequency
$170 \leq h < 175$	5
$175 \leq h < 180$	18
$180 \leq h < 185$	12
$185 \leq h < 190$	4
$190 \leq h < 195$	1

(a) Complete the cumulative frequency table.

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

(1)

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



(c) Use the graph to find an estimate for the median height of the bushes.

..... cm
(1)

2.

The table gives information about the ages of 160 employees of an IT company.

Age (A) in years	Frequency
$15 < A \leq 25$	44
$25 < A \leq 35$	56
$35 < A \leq 45$	34
$45 < A \leq 55$	19
$55 < A \leq 65$	7

(a) Complete the cumulative frequency table.

Age (A) in years	Cumulative Frequency
$15 < A \leq 25$	
$15 < A \leq 35$	
$15 < A \leq 45$	
$15 < A \leq 55$	
$15 < A \leq 65$	

(1)

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

(2)

(c) Use your graph to find an estimate for

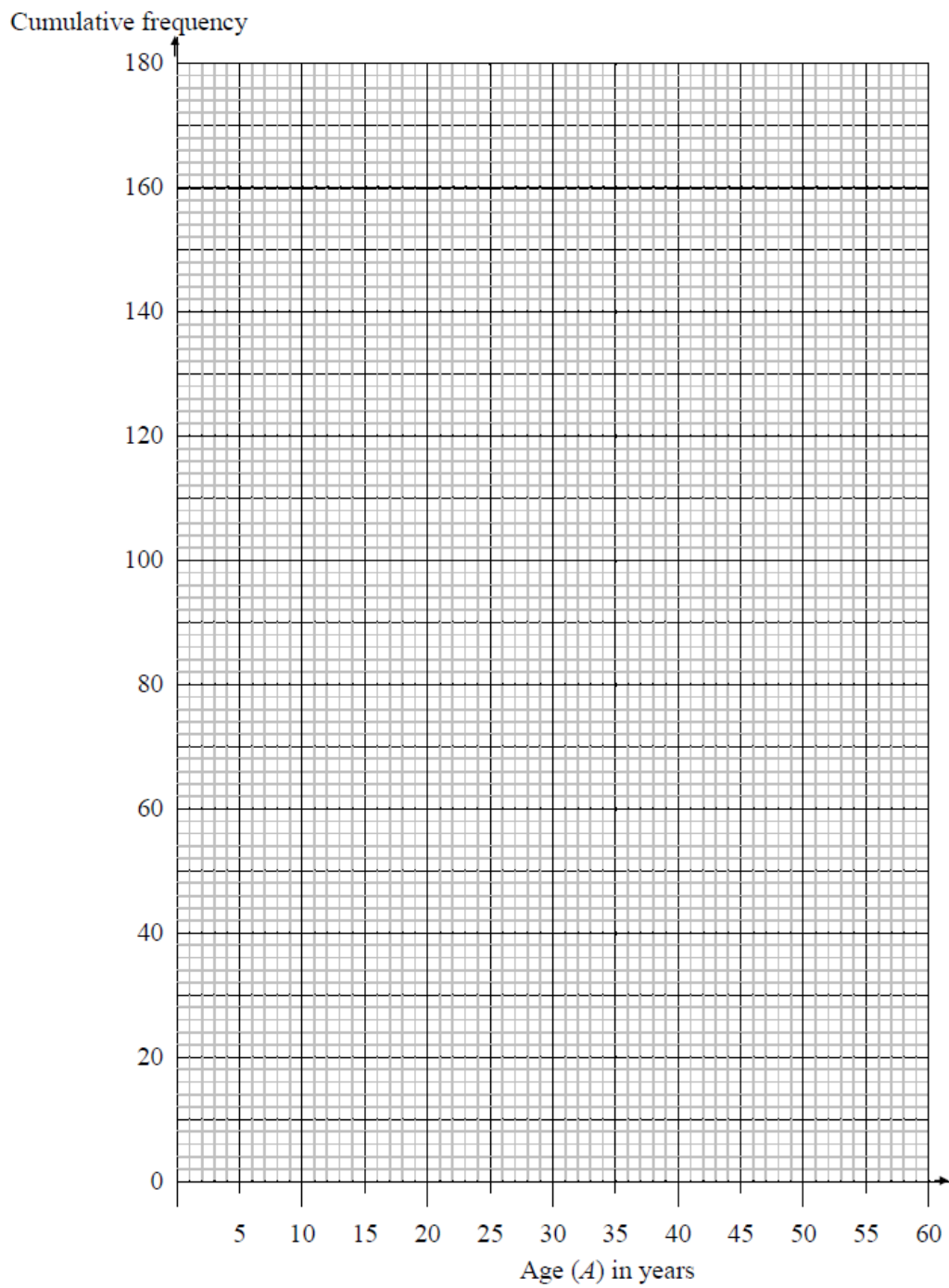
(i) the median age of the employees,

..... years

(i) the interquartile range of the ages of the employees.

..... years

(3)



3.

The table shows information about the number of hours that 120 children used a computer last week.

Number of hours (h)	Frequency
$0 < h \leq 2$	10
$2 < h \leq 4$	15
$4 < h \leq 6$	30
$6 < h \leq 8$	35
$8 < h \leq 10$	25
$10 < h \leq 12$	5

(a)

Complete the cumulative frequency table.

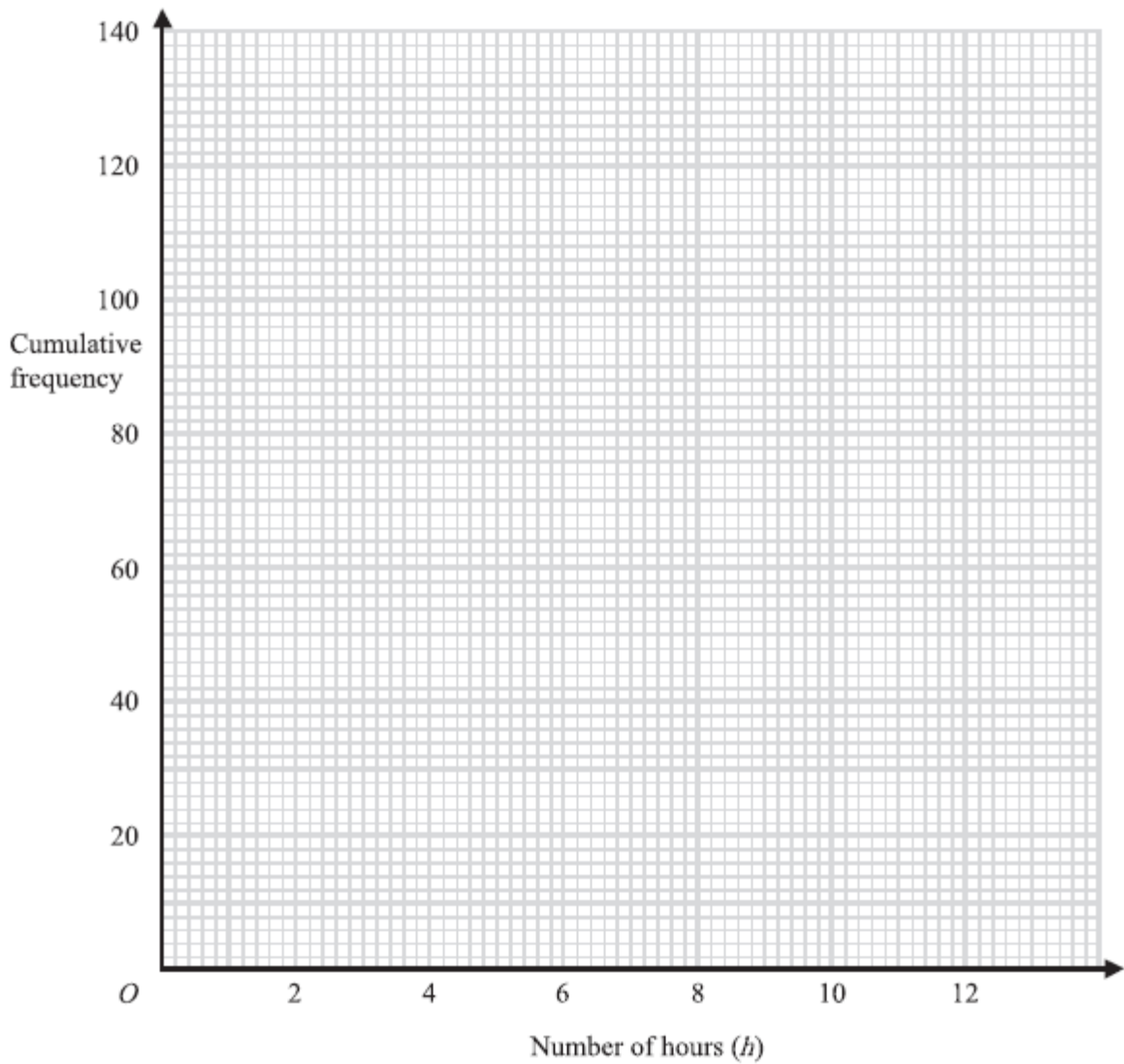
Number of hours (h)	Cumulative frequency
$0 < h \leq 2$	10
$0 < h \leq 4$	
$0 < h \leq 6$	
$0 < h \leq 8$	
$0 < h \leq 10$	
$0 < h \leq 12$	

(1)

(b)

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

(2)



(c)

Use your graph to find an estimate for the number of children who used a computer for less than 7 hours last week.

.....
(2)

4.

A company tested 100 batteries.

The table shows information about the number of hours that the batteries lasted.

Time (t hours)	Frequency
$50 \leq t < 55$	12
$55 \leq t < 60$	21
$60 \leq t < 65$	36
$65 \leq t < 70$	23
$70 \leq t < 75$	8

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

(1)

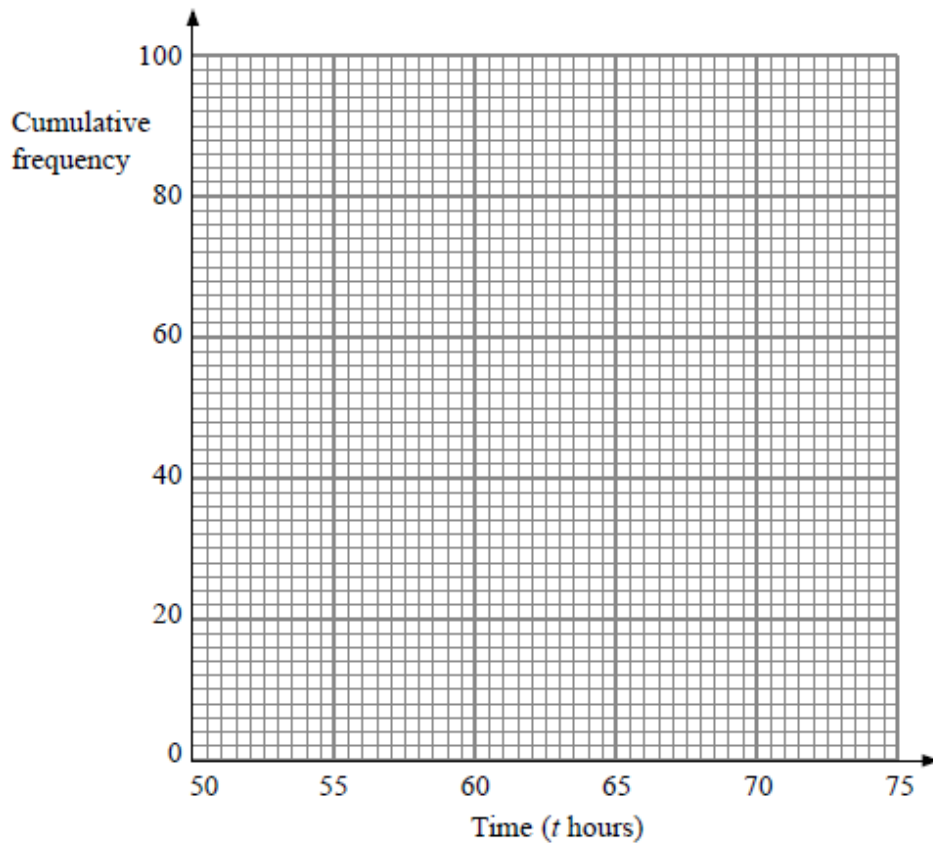
Time (t hours)	Cumulative frequency
$50 \leq t < 55$	12
$50 \leq t < 60$	
$50 \leq t < 65$	
$50 \leq t < 70$	
$50 \leq t < 75$	

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

(2)

(c) Use your completed graph to find an estimate for the median time.
You must state the units of your answer.

.....
(2)



5.

The table shows information about the ages of the 240 people at a club.

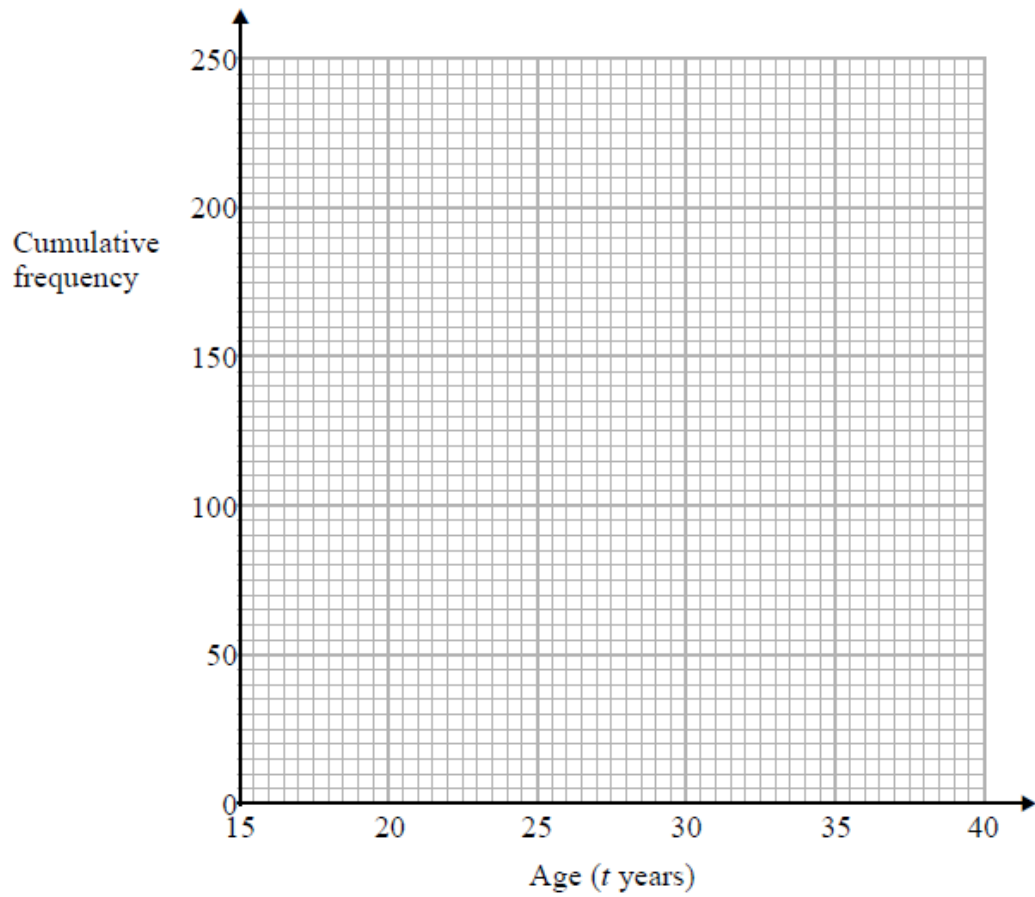
Age (t years)	Frequency
$15 \leq t < 20$	95
$20 \leq t < 25$	90
$25 \leq t < 30$	35
$30 \leq t < 35$	15
$35 \leq t < 40$	5

(a) Complete the cumulative frequency table.

Age (t years)	Cumulative frequency
$15 \leq t < 20$	
$15 \leq t < 25$	
$15 \leq t < 30$	
$15 \leq t < 35$	
$15 \leq t < 40$	

(1)

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



(2)

(c) Use your graph to find an estimate for the median age of the people.

..... years
(1)