

STATISTICAL MEASURES 2- IGCSE MATHEMATICS

NAME _____

Question 1

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

Time (t minutes)	Frequency
$0 < t \leq 10$	5
$10 < t \leq 20$	8
$20 < t \leq 30$	12
$30 < t \leq 40$	15
$40 < t \leq 50$	7
$50 < t \leq 60$	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
$0 < t \leq 10$	5
$10 < t \leq 20$	13
$20 < t \leq 30$	25
$30 < t \leq 40$	40
$40 < t \leq 50$	47
$50 < t \leq 60$	50

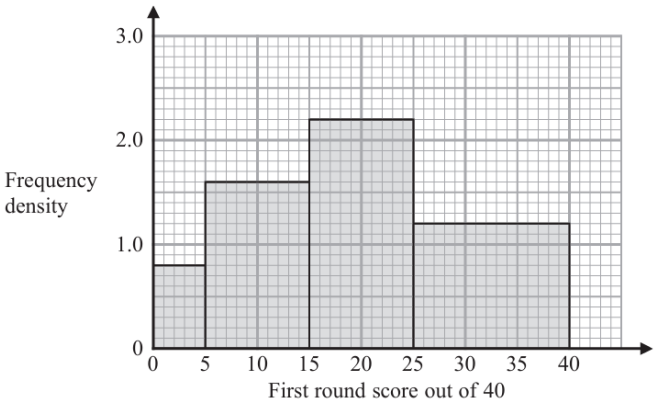
Write down **one** thing that is wrong with this cumulative frequency table.

[1]

Question 2

Some people took part in the first round of a competition.

The histogram gives information about the scores of these people in the first round.



20% of the people got a score high enough for them to qualify for the second round.

Work out an estimate for the score needed to qualify for the second round.
You must show all your working.

[4]

Question 3

The table shows information about the number of minutes each of 120 buses was late last Monday.

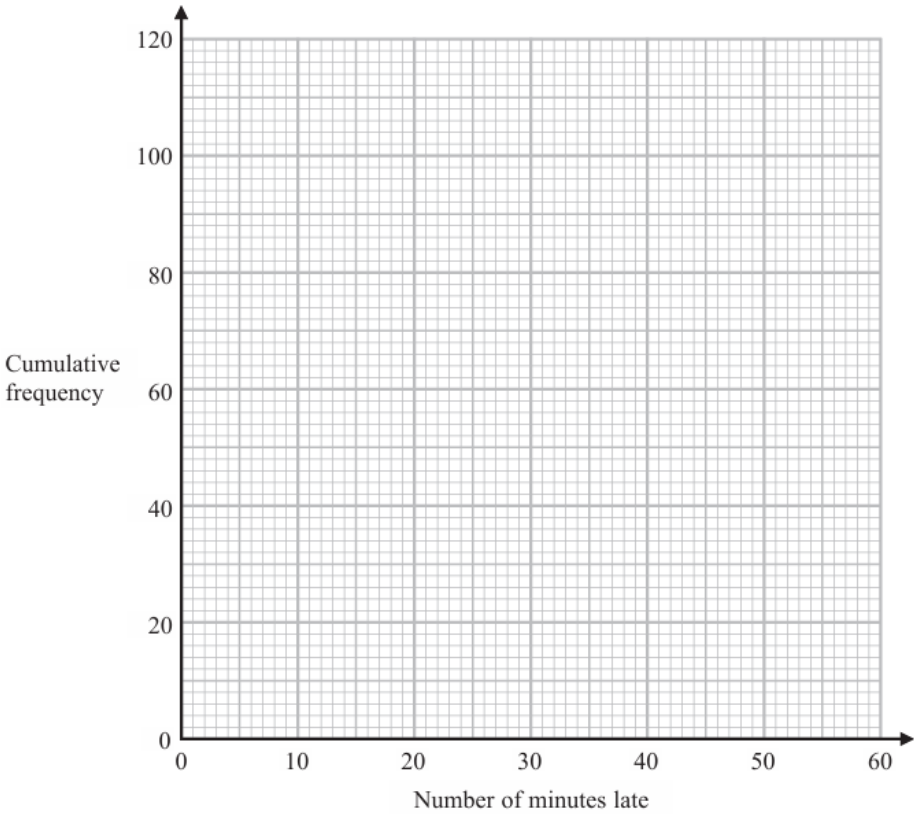
Number of minutes late (L)	Frequency
$0 < L \leq 10$	10
$10 < L \leq 20$	16
$20 < L \leq 30$	44
$30 < L \leq 40$	29
$40 < L \leq 50$	15
$50 < L \leq 60$	6

(a) Complete the cumulative frequency table below.

Number of minutes late (L)	Cumulative frequency
$0 < L \leq 10$	
$0 < L \leq 20$	
$0 < L \leq 30$	
$0 < L \leq 40$	
$0 < L \leq 50$	
$0 < L \leq 60$	

[1]

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



(2)

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

.....minutes
(2)

(d) Use your graph to find an estimate for the number of buses that were more than 48 minutes late last Monday.

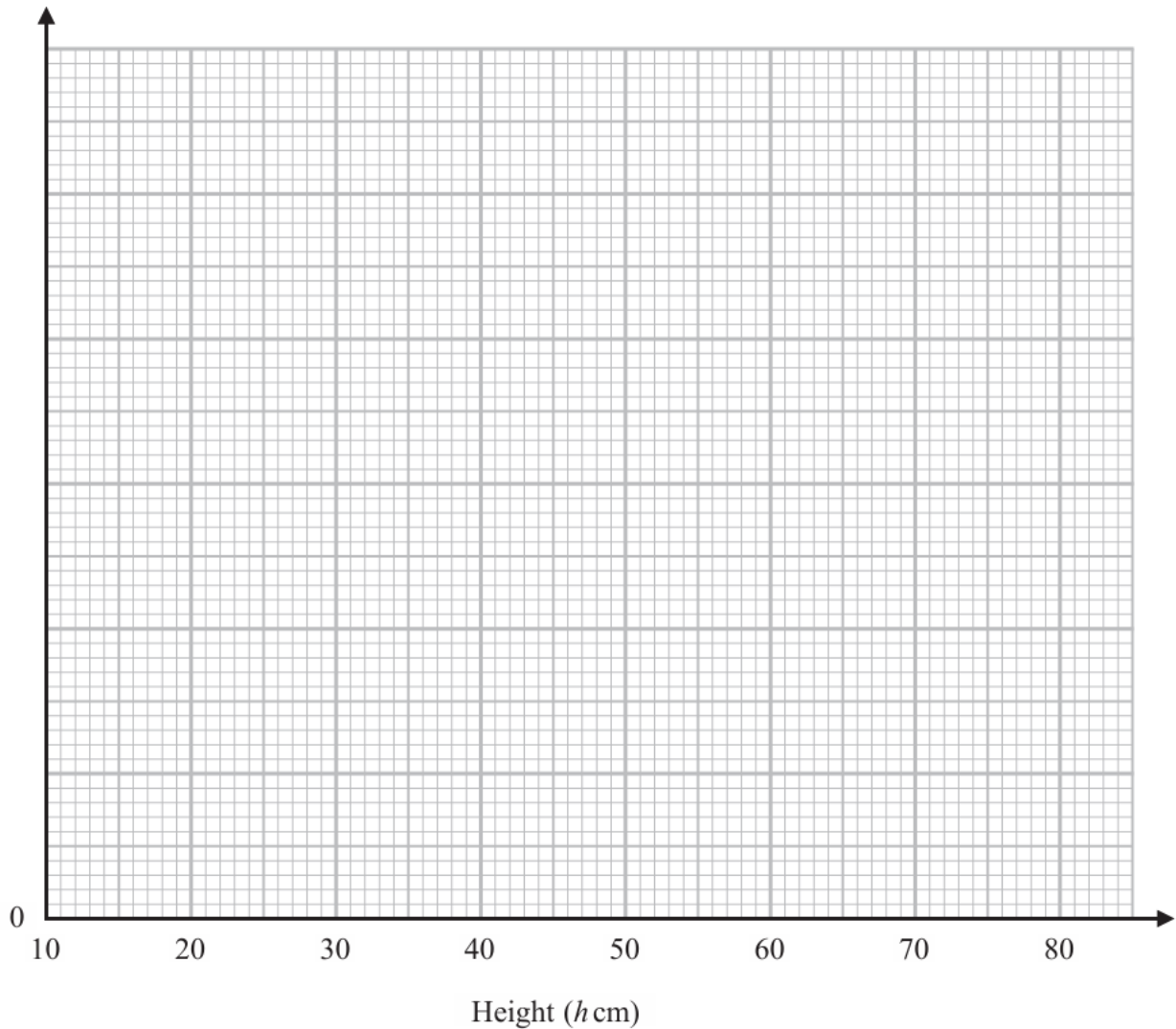
.....
(2)

Question 4

The table gives information about the heights, in centimetres, of some plants.

Height (h cm)	Frequency
$10 < h \leq 20$	35
$20 < h \leq 35$	45
$35 < h \leq 50$	75
$50 < h \leq 70$	40
$70 < h \leq 80$	8

(a) On the grid, draw a histogram for this information.



(3)

(b) Work out an estimate for the number of these plants with a height greater than 40 cm.

[2]

Question 5

The table shows information about the lengths of time, in minutes, 120 customers spent in a supermarket.

Length of time (L minutes)	Frequency
$20 < L \leq 30$	6
$30 < L \leq 40$	26
$40 < L \leq 50$	31
$50 < L \leq 60$	40
$60 < L \leq 70$	17

(a) Write down the modal class.

.....
(1)

(b) Work out an estimate for the mean length of time spent by the 120 customers in the supermarket.

.....minutes
(4)

Question 6

The table shows information about the heights, in cm, of 48 sunflowers in a garden centre.

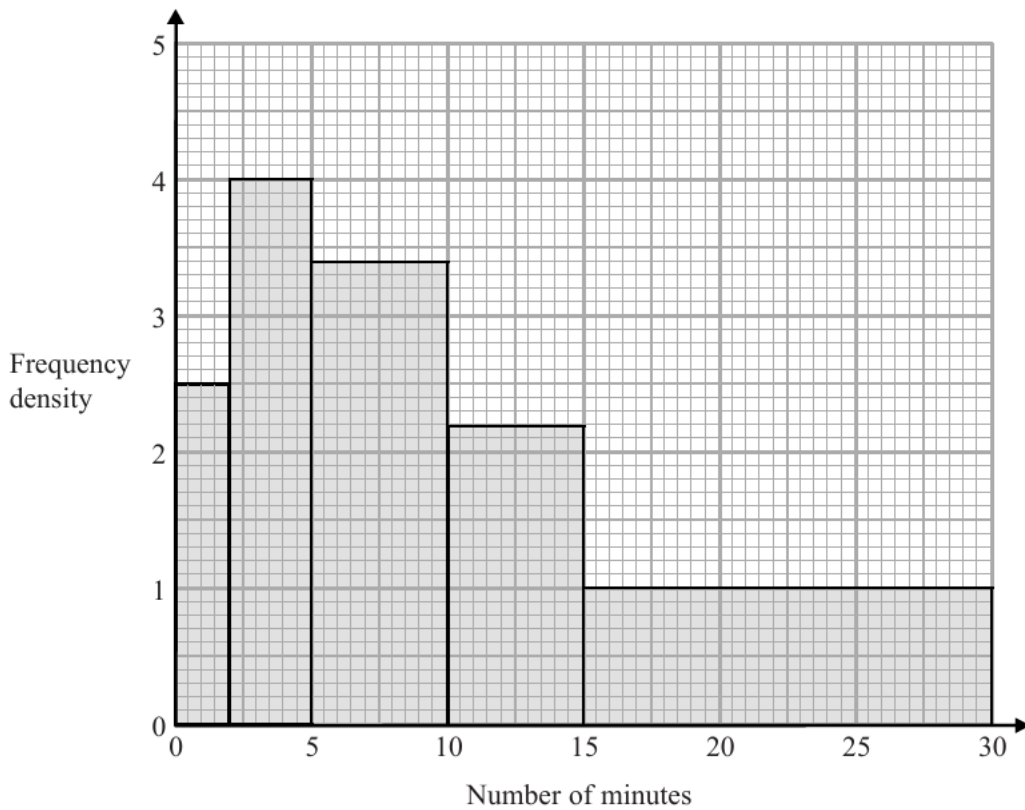
Height of sunflower (h cm)	Frequency
$90 < h \leq 100$	8
$100 < h \leq 110$	12
$110 < h \leq 120$	15
$120 < h \leq 130$	10
$130 < h \leq 140$	3

Work out an estimate for the mean height of the sunflowers.

[4]

Question 7

The histogram shows information about the numbers of minutes some people waited to be served at a Post Office.



Work out an estimate for the proportion of these people who waited longer than 20 minutes to be served.

[3]

Question 8

The frequency table gives information about the numbers of mice in some nests.

Number of mice	Frequency
5	4
6	13
7	16
8	x
9	6

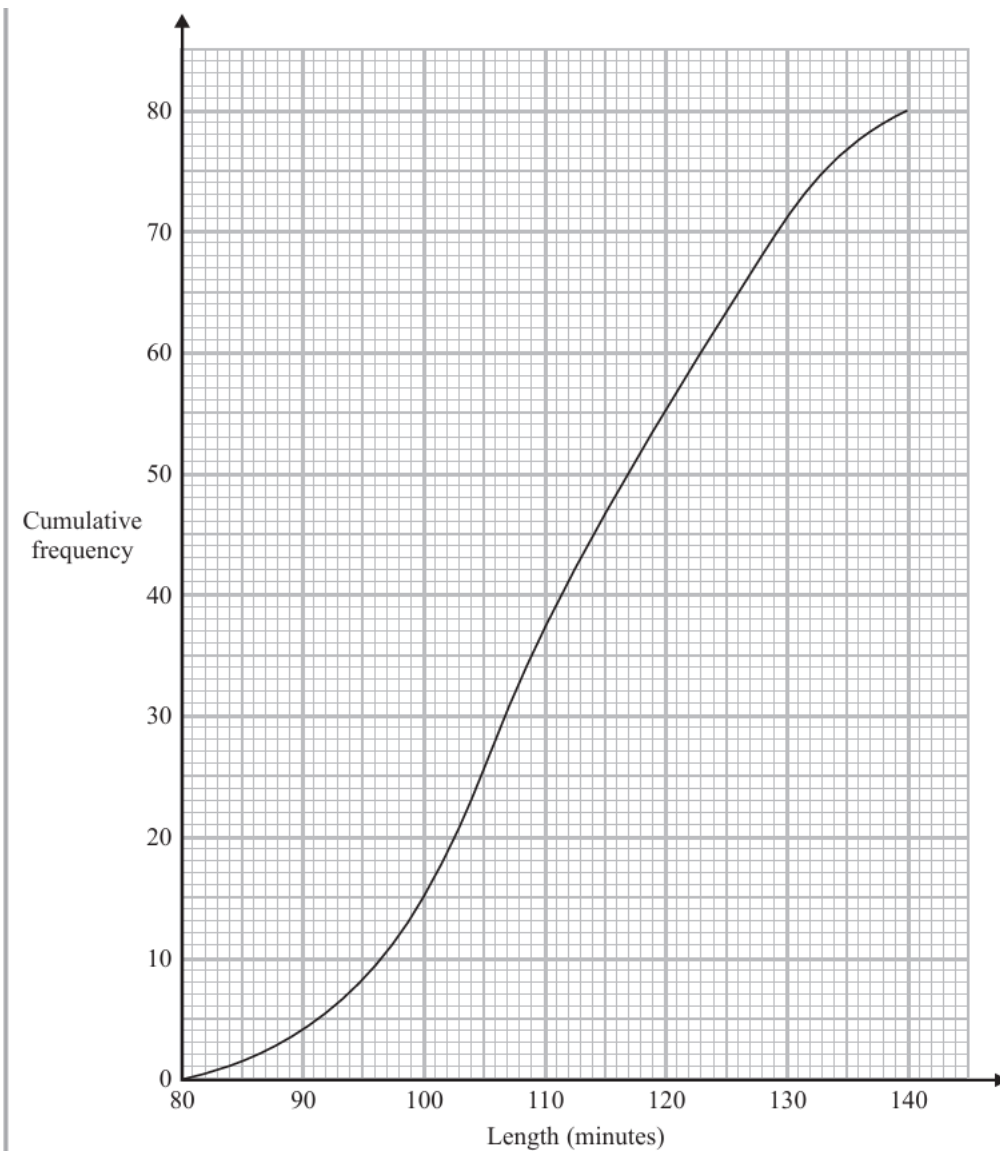
The mean number of mice in a nest is 7

Work out the value of x .

[4]

Question 9

The cumulative frequency graph shows information about the length, in minutes, of each of 80 films.



- (a) Use the graph to find an estimate for the interquartile range.

..... minutes
(2)

Clare says,

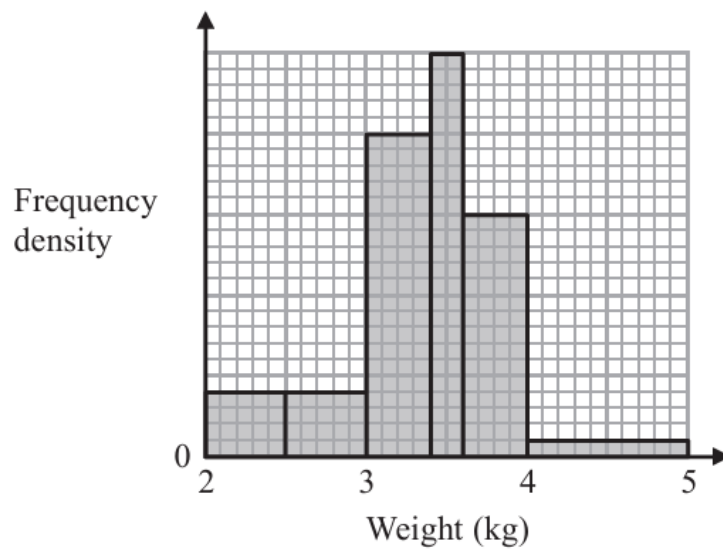
“More than 35% of these films are over 120 minutes long.”

- (b) Is Clare correct?
Give a reason for your answer.

[2]

Question 10

The histogram shows information about the birth weights of some babies.



6 of these babies had a birth weight less than 2.5 kg or greater than 4 kg.

Work out the number of babies who had a birth weight between 2.5 kg and 4 kg.

..... **[3]**

Total marks = 40

