

Topic 14 Statistics 2 (Post-TT) [37]

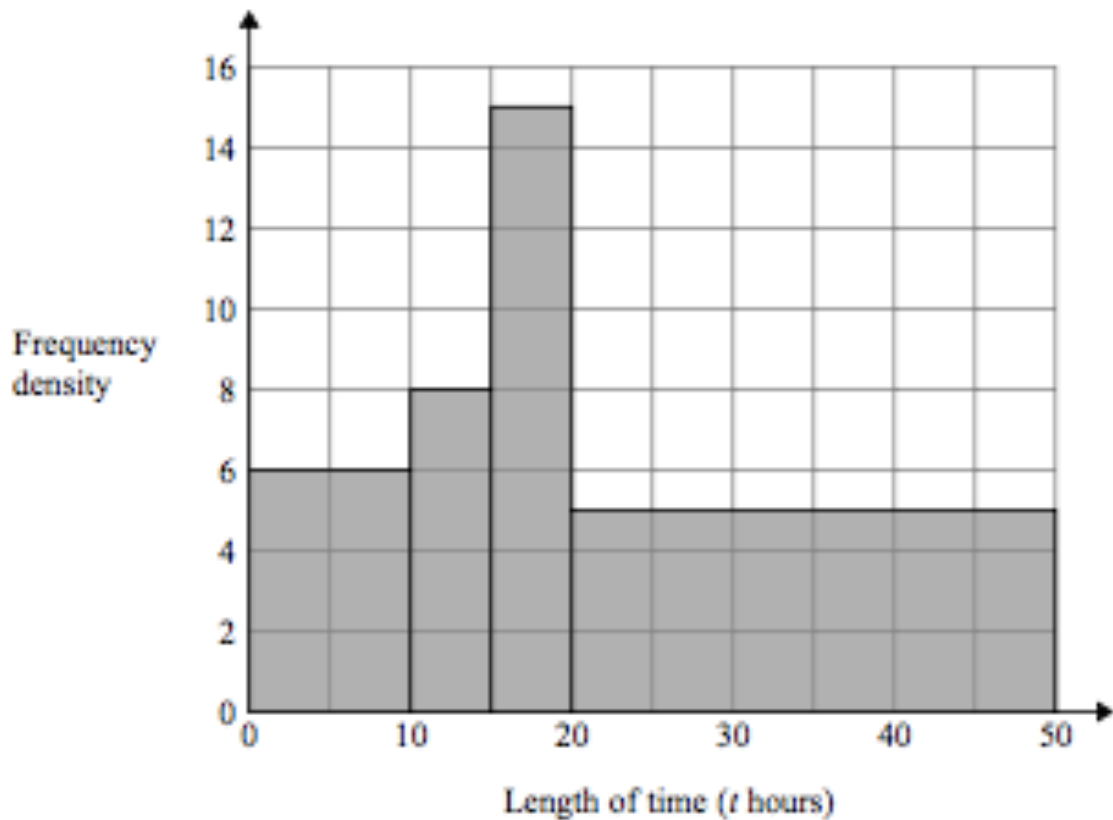
1.

Bhavna recorded the lengths of time, in hours, that some adults watched TV last week.

The table shows information about her results.

Length of time (t hours)	Frequency
$0 \leq t < 10$	6
$10 \leq t < 15$	8
$15 \leq t < 20$	15
$20 \leq t < 40$	5

Bhavna made some mistakes when she drew a histogram for this information.

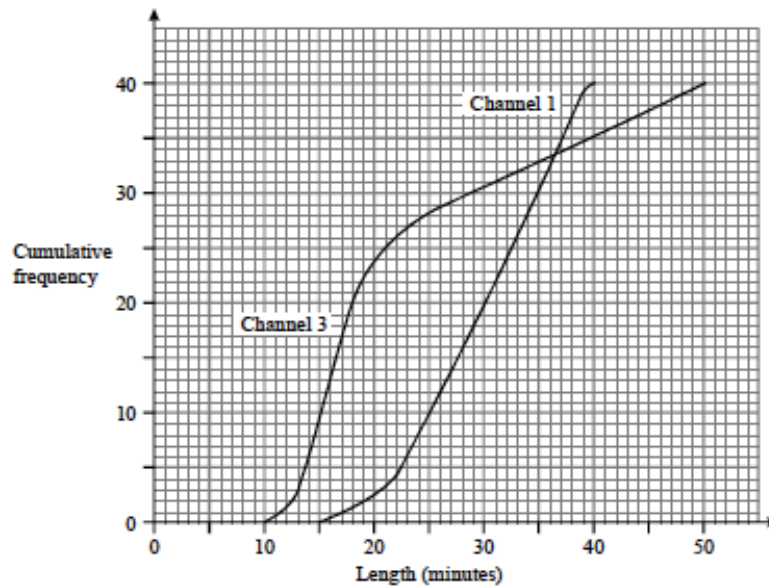


Write down **two** mistakes Bhavna made.

(Total 2 marks)

2.

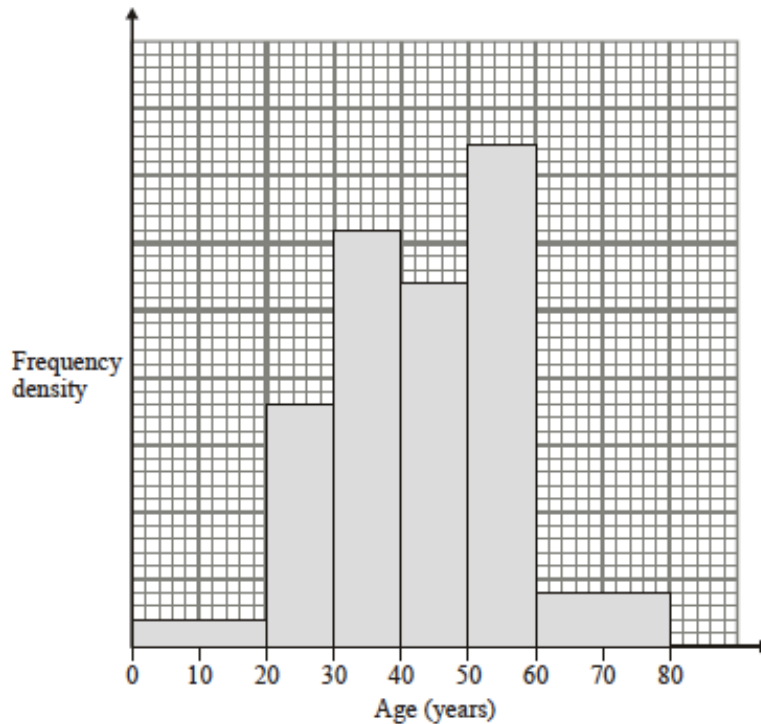
The cumulative frequency graphs represent the lengths of 40 programmes on Channel 1 and 40 programmes on Channel 3.



- (a) What is the difference between the median programme lengths for the two channels? (2)
- (b) How many programmes in total were more than 25 minutes long? (3)
- (Total 5 marks)**

3.

The histogram represents the ages of the members of a golf club.



There are 44 member who are aged under 30.

Calculate the number of members who are aged 55 or over.

(Total 4 marks)

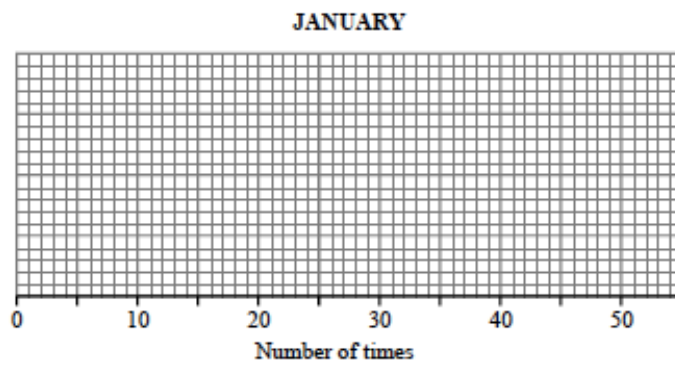
4. N.B. Draw the box plot from (a) on a piece of graph paper.

The manager of a gym recorded the number of times that sun-beds were used each day in January.

The table shows a summary of his results.

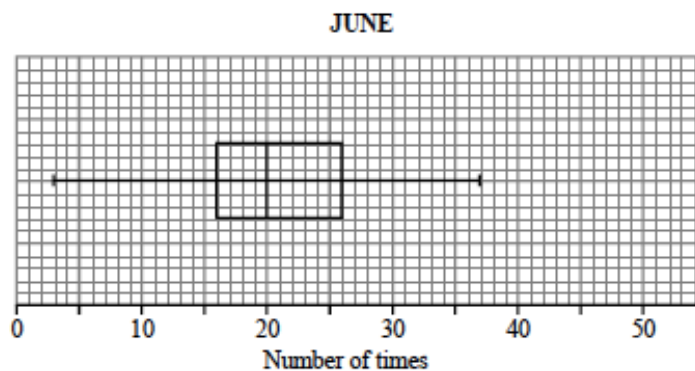
	Number of times
Minimum	16
Lower quartile	23
Median	28
Upper quartile	33
Maximum	40

(a) Draw a box plot to show these results.



(3)

(b) The number of times that the sun-beds were used each day in June is summarized in the box plot below.



Write down two differences between the box plots.

(2)
(Total 5 marks)

5. **N.B. Draw the histogram on a piece of graph paper.**

The times taken by 60 girls to run a race are summarised in the table.

Time t (seconds)	Frequency		
$200 \leq t < 300$	13		
$300 \leq t < 380$	40		
$380 \leq t < 450$	7		

(a) Draw a histogram to represent the times taken by the girls.
You may use the empty columns in the table if you wish.

(3)

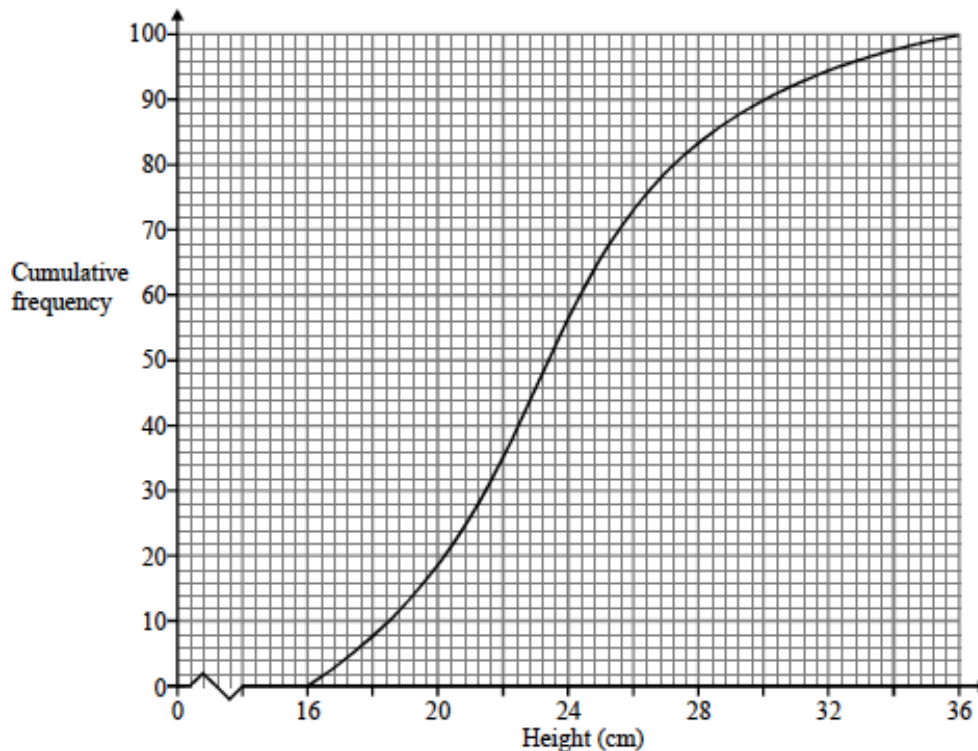
(b) Estimate how many girls took more than 350 seconds to run the race.

(2)

(Total 5 marks)

6.

The cumulative frequency diagram shows the heights, in centimetres, of 100 plants.



Use the cumulative frequency diagram to estimate

(a) the number of plants with a height less than 25 cm,

(1)

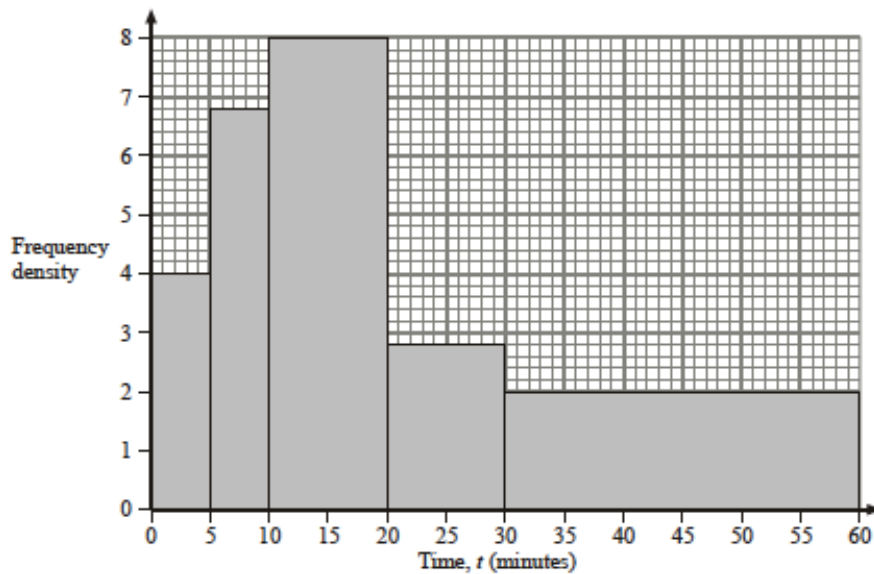
(b) the interquartile range of the heights of the plants.

(2)

(Total 3 marks)

7.

The histogram summarises the travelling times to school of a sample of pupils.



(a) Copy and complete the frequency table below.

Time, t (minutes)	$0 < t \leq 5$	$5 < t \leq 10$	$10 < t \leq 20$	$20 < t \leq 30$	$30 < t \leq 60$
Number of pupils			80		

(3)

(b) One-third of these pupils take more than T minutes to travel to school.

Calculate an estimate of the value of T .

(3)

(Total 6 marks)

8. **N.B. Draw the graph on a sheet of graph paper.**

A group of 80 trainee secretaries have their typing speeds tested. The table shows their results in words per minute (wpm).

Speed, s (wpm)	Number of typists
$20 \leq s < 30$	8
$30 \leq s < 40$	30
$40 \leq s < 50$	24
$50 \leq s < 60$	13
$60 \leq s < 70$	5

Speed, s (wpm)	Cumulative frequency
< 30	
< 40	
< 50	
< 60	
< 70	

(a) (i) Complete the cumulative frequency column in the table.

(1)

(ii) Draw a cumulative frequency diagram on the grid below.

(3)

(b) Use your diagram to estimate the interquartile range.

(2)

(c) Typists achieving less than 45 words per minute have to resit the test. Estimate the number of typists who have to resit the test.

(1)

(Total 7 marks)