



Maths-it Podcast H-23

Higher GCSE Revision

Graphs and charts

Topics

Box plots – Histograms – Cumulative frequency

Questions

1. The ages, in years, of 15 people at a family gathering are listed in order

4 12 12 13 18 26 29 32 35 40 43 44 50 67 75

(a) Find

(i) the lower quartile,

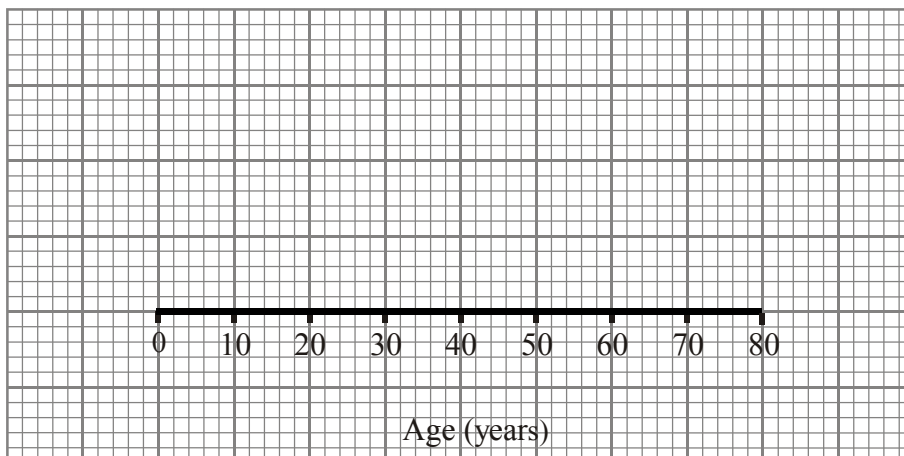
.....seconds

(ii) the interquartile range.

.....seconds

(2)

(b) Draw a box plot for this data.



(3)
(Total 5 marks)



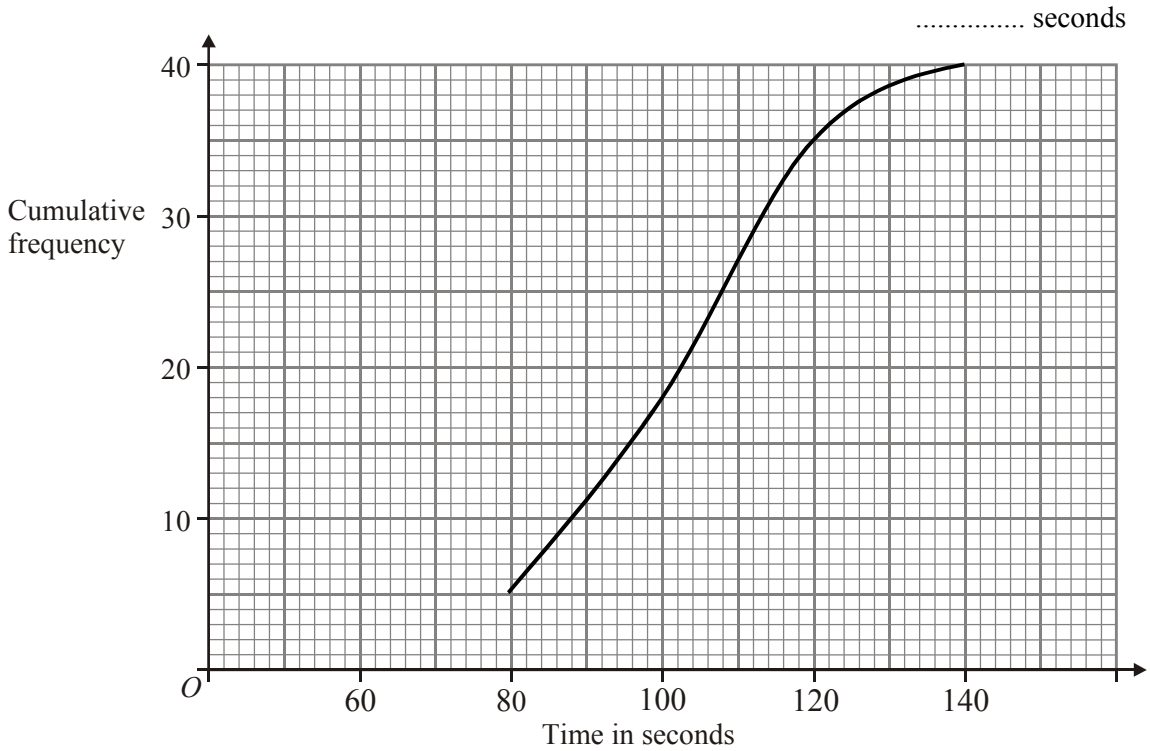
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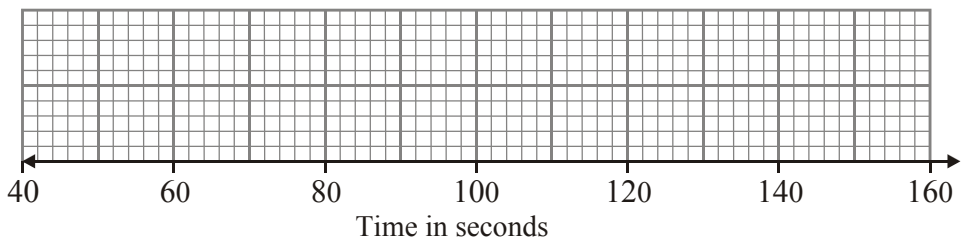
2. 40 Year 11 boys each ran 400m.
The cumulative frequency graph below gives information about the times it took them to complete the distance.

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

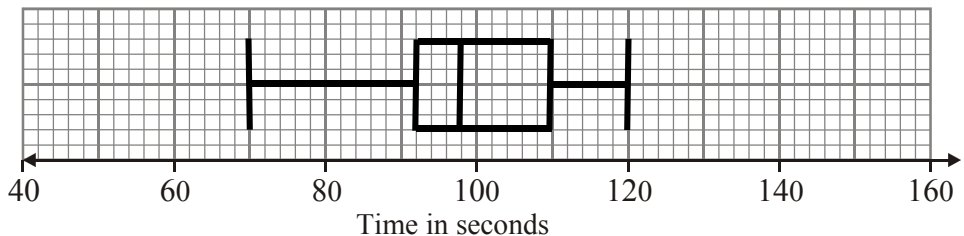


For the boys
the fastest time was 65 seconds
and the slowest time was 127 seconds.

(b) Use this information and the cumulative frequency graph to draw a box plot showing information about the boy's times.



The box plot below shows information about the times taken by 40 girls to complete the 400 metres race.





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(c) Make **two** comparisons between the boys' times and the girls' times.

.....
.....

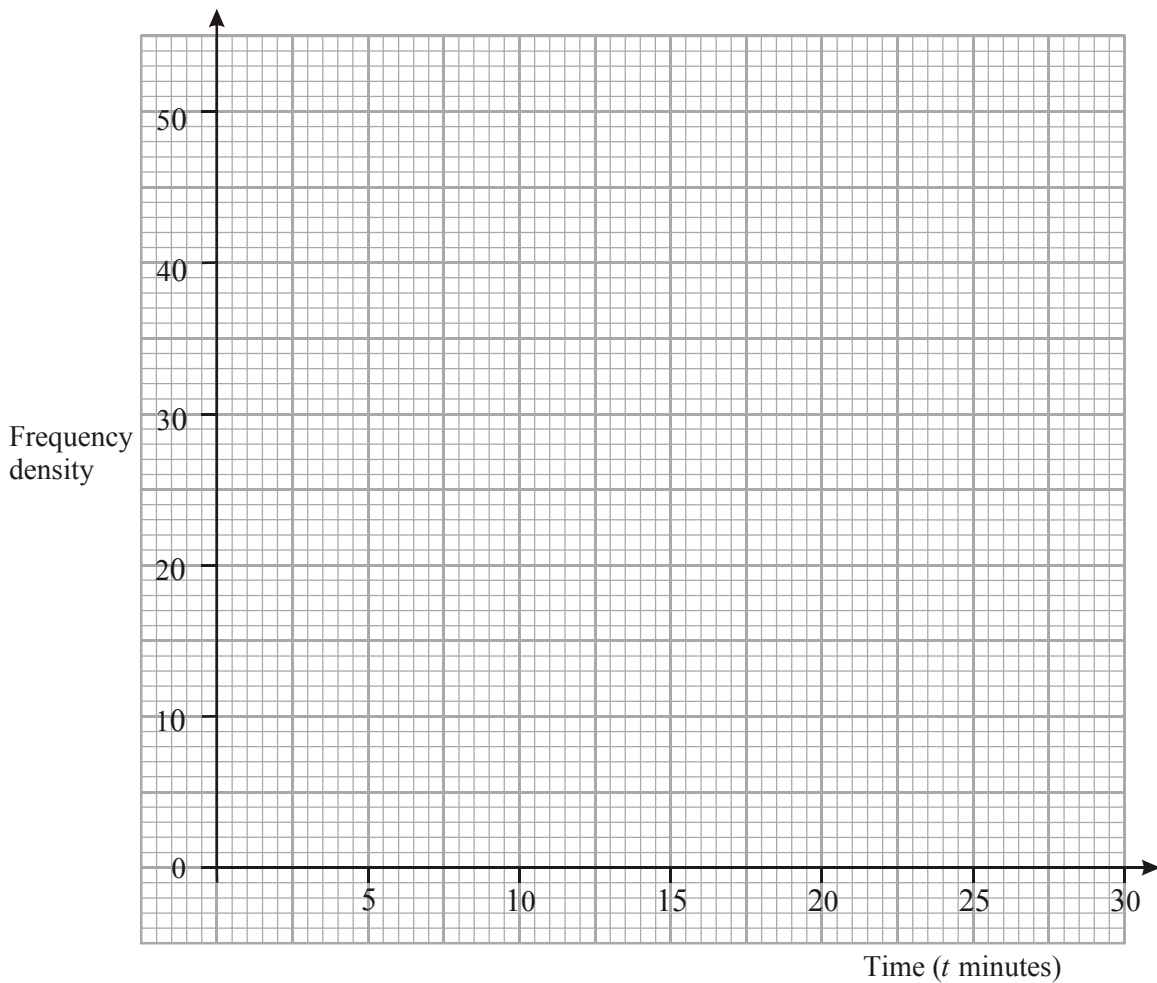
(2)

(Total 6 marks)

3. Keira recorded the times, in minutes, taken by 370 students to complete a wordsearch. The table gives information about her results.

Time (t minutes)	Frequency
$0 \leq t < 5$	70
$5 \leq t < 7$	88
$7 \leq t < 10$	102
$10 \leq t < 30$	110

Use the information in the table to draw a histogram.



(Total 3 marks)



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4. The cumulative frequency table gives information about the number of minutes 100 telephone calls made by a Head of Year in a school to parents.

Length of call (min)	Cumulative frequency
$0 < t \leq 10$	28
$0 < t \leq 20$	45
$0 < t \leq 30$	12
$0 < t \leq 40$	10
$0 < t \leq 50$	5

- (a) On the grid below, draw a cumulative frequency graph for the data in the table. (2)
- (b) Use your cumulative frequency graph to work out an estimate for the interquartile range of the number of minutes customers were in the supermarket.

..... minutes (2)

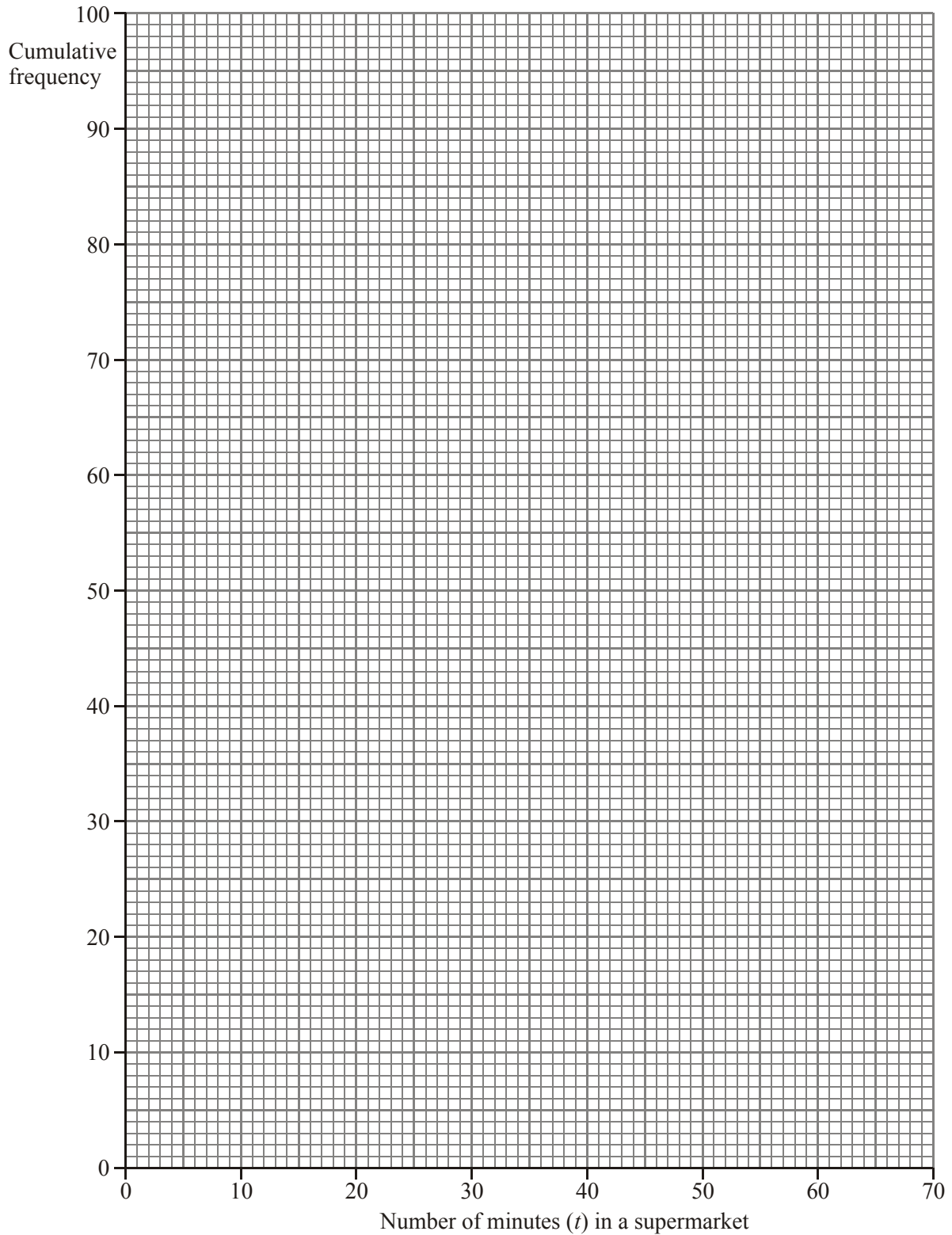
(Total 4 marks)



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(Total 4 marks)