

Box Plots

Please write clearly in block capitals

Forename:

Surname:

Materials

For this paper you must have:

- mathematical instruments



You *can* use a calculator.

Instructions

- Use black ink or black ball-point pen. Draw diagrams in pencil.
- Fill in the boxes at the top of this page.
- Answer all questions.
- You must answer the questions in the spaces provided. Do not write outside the box around each page or on blank pages.
- Do all rough work in this book. Cross through any work you do not want to be marked.

Information

- The marks for questions are shown in brackets.
- You may ask for graph paper, tracing paper and more answer paper. These must be tagged securely to this answer book.

Advice

- In all calculations, show clearly how you work out your answer.

1 Students in year 7 took an English test. The boys' results are summarised below. (Level 5)

The lowest mark was 12

The highest mark was 55

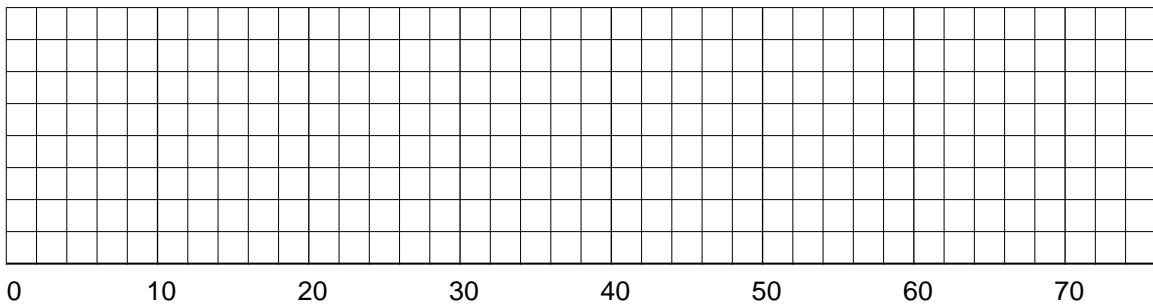
The median was 32

The upper quartile was 41

The interquartile range was 22

On the grid below, draw a box plot to represent this information.

[3 marks]



Turn over for next question

2 Students in year 7 took an English test.

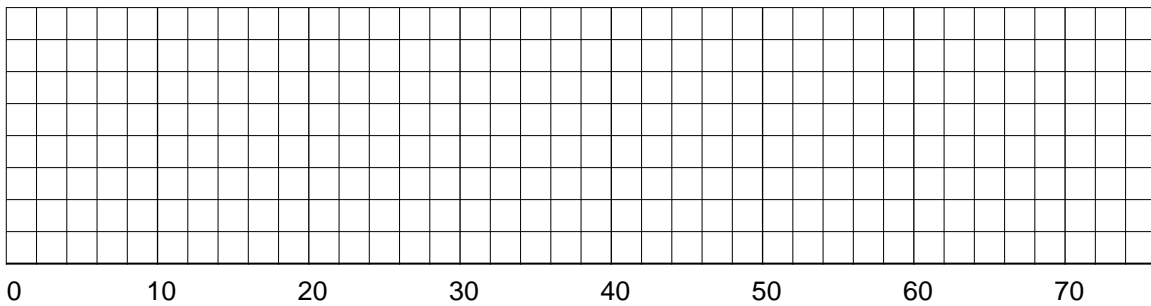
(Level 5)

The girls' results are summarised in the table below.

15	17	17	21	26	29
31	35	40	46	49	57

Use the information in the table above to construct a box plot on the grid below.

[3 marks]



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3 Year 8 students took a Maths test.

(Level 5)

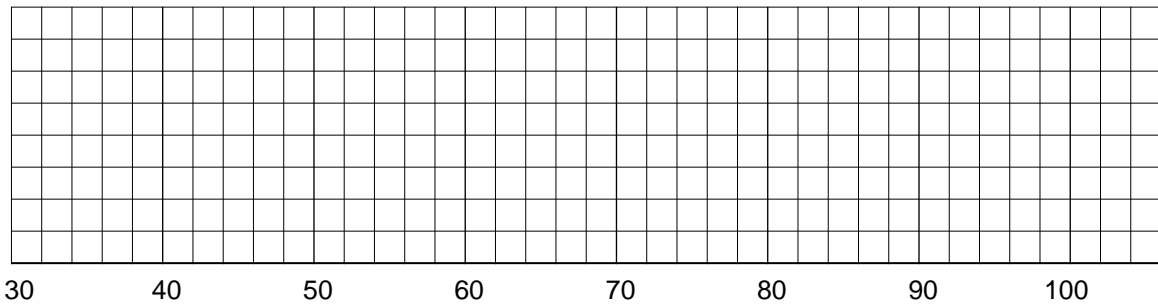
The summary statistics for both boys and girls are summarised below.

	Boys	Girls
Median	55	60
Highest Value	82	78
Range	48	38
Upper Quartile	70	72
Lower Quartile	42	45

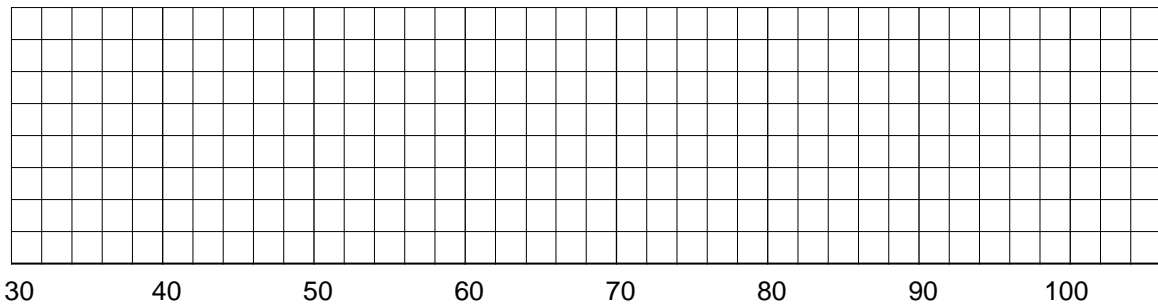
3(a) Draw box plots for both sets of data on the axes below.

[2 marks]

Boys



Girls



Question continues on the next page

3(b) Compare the boxplots of the boys and girls

[2 marks]



GCSE Maths Practice Exam Papers

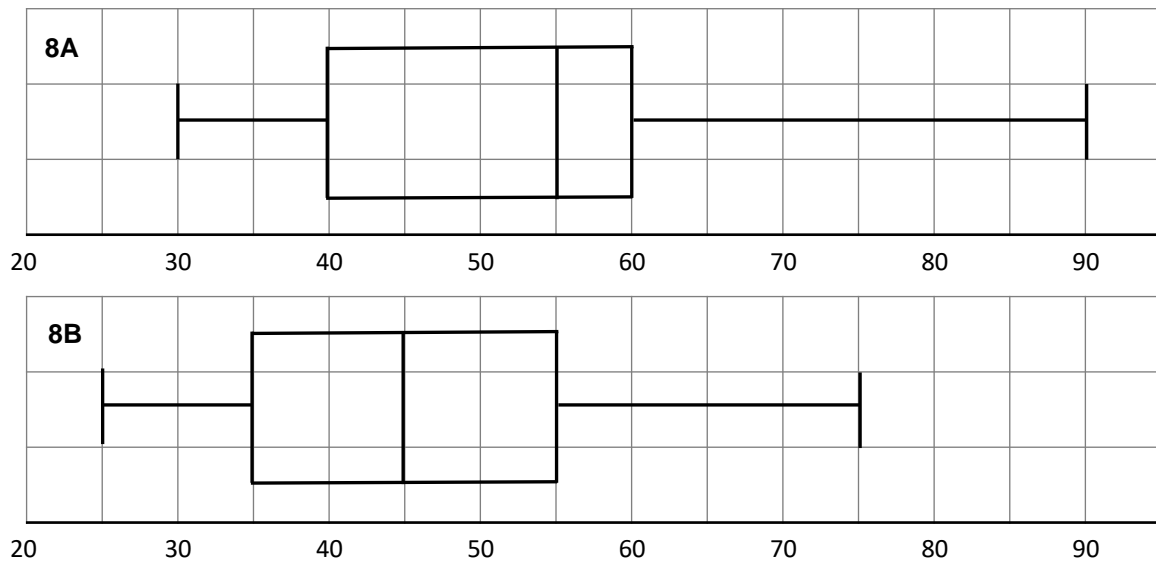
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- ✓ Paper 1, 2, 3 and mark scheme in every set
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4 Two classes, 8A and 8B, collect data on the time it takes students to get to school. (Level 5)

This information has been summarised on the box plots below.



4(a) Fill in the table below

[3 marks]

Class	8A	8B
Median		
Inter-Quartile Range		
Range		

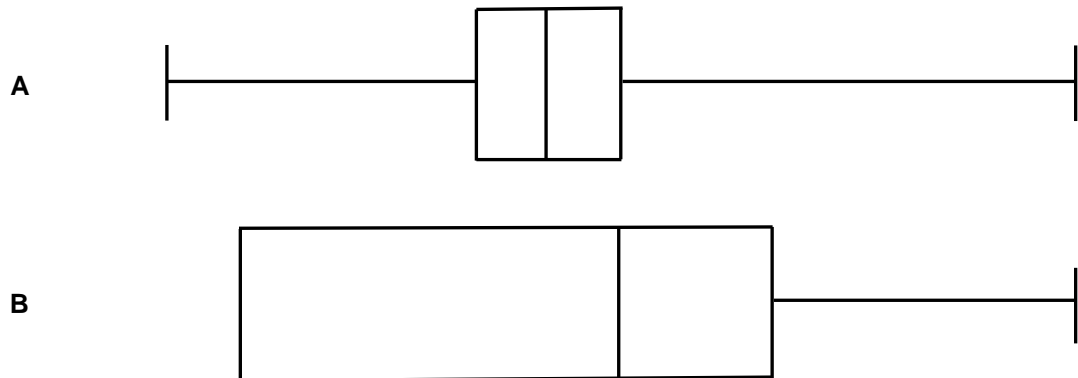
4(b) Which class was most consistent overall with the time they took to get to school?

You **must** justify your answer.

[1 mark]

5

Two sets of data, A and B, have been plotted as box plots.

(Level 5)

5(a) Which data set has the smallest inter-quartile range?

[1 mark]

5(b) Why is only one characteristic “whisker” shown for data set B?

[1 mark]

5(c) Compare the distributions of box A and B.

[2 marks]

Turn over for next question

6 5 friends measure their heights and the results are shown below.

(Level 6)

156 cm, 153 cm, 151 cm, 150 cm, 170 cm

A box plot is to be made from this data.

Discuss the benefits and drawbacks of using a box plot based on this data.

Discuss the sample size and any outliers.

[2 marks]



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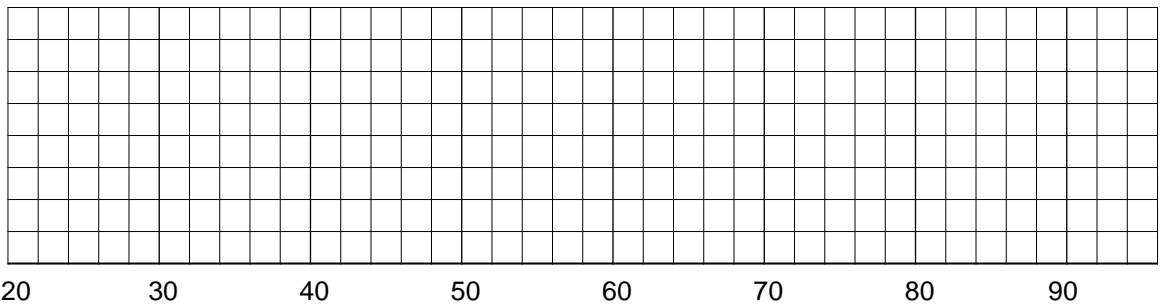


7 Tom kept a record of the amount of time Robins spent in his garden at each visit. (Level 6)
 The table below shows his summary statistics for the times recorded.

Robins	Minutes
Lowest time	20
Range	60
Median	45
Lower Quartile	30
Interquartile range	28

7(a) On the grid below, draw a box plot to represent this information.

[1 marks]



7(b) Tom logs some extra data about new Robins that have entered his garden.
 The new Robins spend the following times in the garden.
 20 mins, 25 mins, 27 mins
 Comment on how this will affect the shape of the box plot above.

[2 marks]

End of Questions