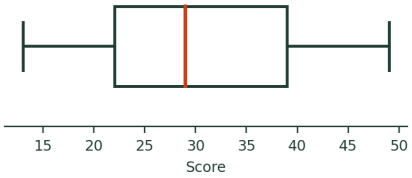
Box Plots

Grade 6 topic · Higher tier · Edexcel and AQA

How to use this pack
20 questions that get harder as you go. Questions 1–15 (30 marks) build up to the harder Grade 8–9 style questions at the end; aim to complete all 20. Show your working on the lines and write your final answer on the answer line, then mark yourself with the answers at the back. Diagrams are not drawn accurately. Total: 50 marks.

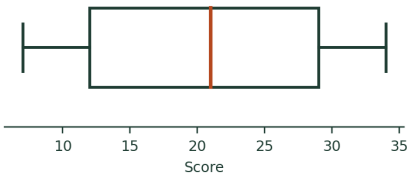
Warm-up

1 The box plot shows the scores of some students. Write down the median. **[1 mark]**



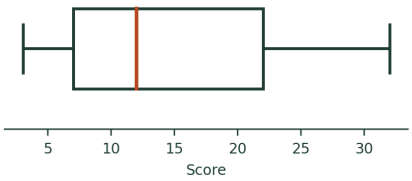
Answer _____

2 The box plot shows the scores of some students. Write down the lower quartile. **[1 mark]**



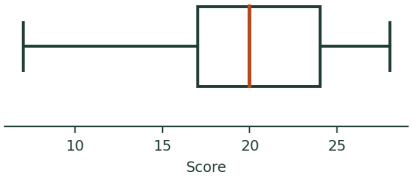
Answer _____

3 The box plot shows the scores of some students. Write down the upper quartile. **[1 mark]**



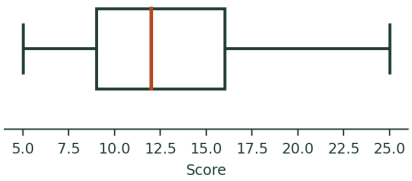
Answer _____

4 The box plot shows the scores of some students. Write down the minimum value. **[1 mark]**



Answer _____

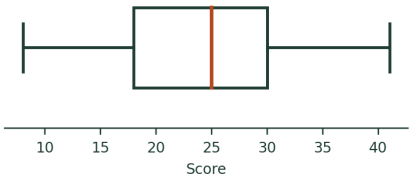
5 The box plot shows the scores of some students. Write down the maximum value. **[1 mark]**



Answer _____

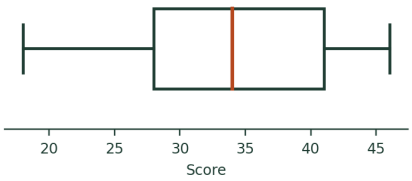
Core

6 The box plot shows the scores of some students. Work out the range. **[2 marks]**



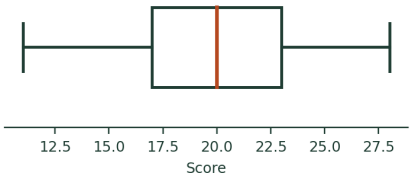
Answer _____

7 The box plot shows the scores of some students. Work out the interquartile range. **[2 marks]**



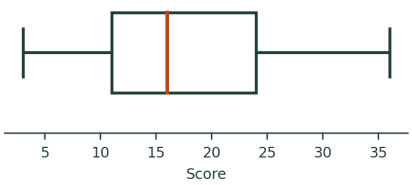
Answer _____

8 The box plot shows the scores of some students. What percentage of the data lies between the lower and upper quartiles? **[2 marks]**



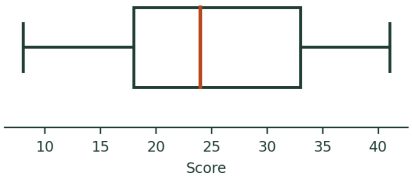
Answer _____

9 The box plot shows the scores of some students. What percentage of the data is below the median? **[2 marks]**



Answer _____

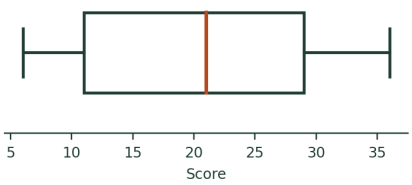
10 The box plot shows the scores of some students. What percentage of the data is above the upper quartile? **[2 marks]**



Answer _____

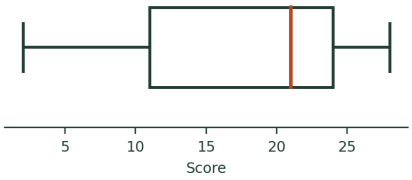
Stretch

11 The box plot shows the scores of some students. There are 80 values in the data set. How many are greater than the upper quartile? **[3 marks]**



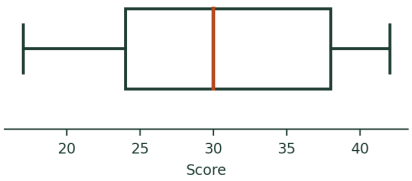
Answer _____

12 The box plot shows the scores of some students. There are 60 values. How many are below the lower quartile? **[3 marks]**



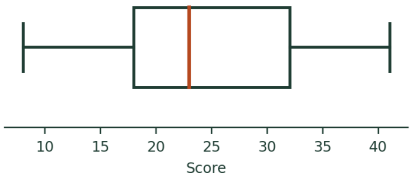
Answer _____

13 The box plot shows the scores of some students. There are 120 values. How many lie between the lower quartile and the median? **[3 marks]**



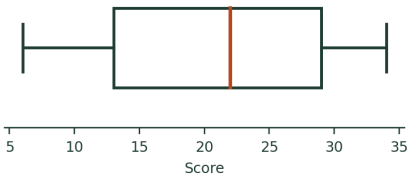
Answer _____

14 The box plot shows the scores of some students. The interquartile range of a second class is 20. Which class has the more consistent scores? **[3 marks]**



Answer _____

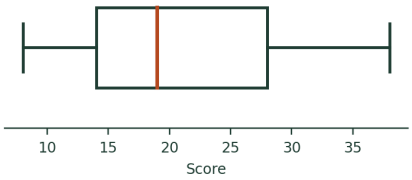
15 The box plot shows the scores of some students. The median of another class is 27. Compare the medians. **[3 marks]**



Answer _____

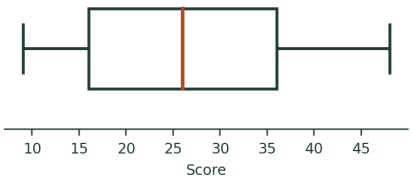
Challenge

16 The box plot shows the scores of some students. A data value is an outlier if it is more than 1.5 × IQR above the upper quartile. Work out the lowest value that would be an outlier. **[4 marks]**



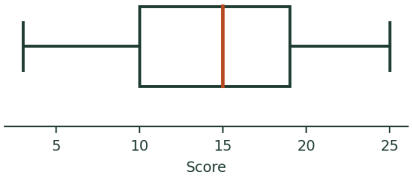
Answer _____

17 The box plot shows the scores of some students. A value of 78 is added. Is it an outlier by the 1.5 × IQR rule? **[4 marks]**



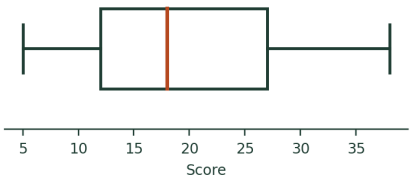
Answer _____

18 The box plot shows the scores of some students. State two things the box plot tells you about the shape of the data. **[4 marks]**



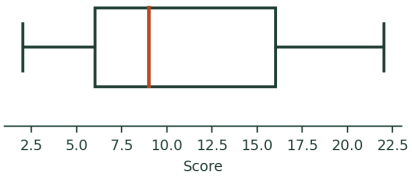
Answer _____

19 The box plot shows the scores of some students. Work out the difference between the range and the IQR. **[4 marks]**



Answer _____

20 The box plot shows the scores of some students. Work out the median as a fraction of the maximum, to 2 decimal places. **[4 marks]**



Answer _____