GCSE HIGHER · REVISION MAT 5

Averages, spread and box plots

1 Find the mean of

2.5, 3.1, 4.2, 3.8

2 Find the interquartile range of

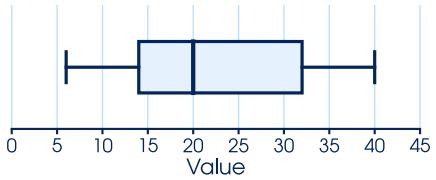
12, 15, 18, 20, 25, 27, 30

3 Explain why one very large value does not change the median.

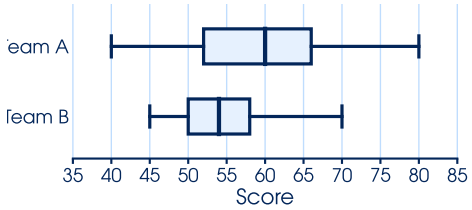
4 Find the mean and the median shoe size.

Size	4	5	6	7	8
Frequency	2	5	8	4	1

5 Show that the interquartile range is 18.



6 Compare the two teams' scores.



7 Explain why a box plot does not show the mean.

8 Four positive whole numbers have mean 6, median 5 and mode 3.

Find the numbers.

ANSWERS · REVISION MAT 5

Averages, spread and box plots

1 $13.6 \div 4$

3.4

2 $Q1 = 15$, $Q3 = 27$

12

3 **The median is the middle value; the largest value stays at the end.**

4 Mean $117 \div 20 = 5.85$

Mean 5.85, median 6

5 **$32 - 14 = 18$**

6 **A higher median (60 vs 54)**

B more consistent (IQR 8 vs 14)

7 **It shows the median, quartiles and extremes only.**

8 3, 3, a, b: $\frac{3 + a}{2} = 5 \Rightarrow a = 7$

Total $24 \Rightarrow b = 11$

3, 3, 7, 11