GCSE HIGHER · REVISION MAT 1

Averages, spread and box plots

1 Find the median of

7, 3, 9, 4, 12, 8

2 Find the range and the interquartile range of

2, 5, 6, 8, 9, 11, 14

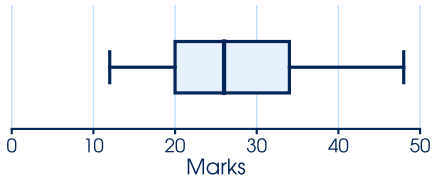
3 Explain why the median may be a better average than the mean for

3, 4, 4, 5, 50

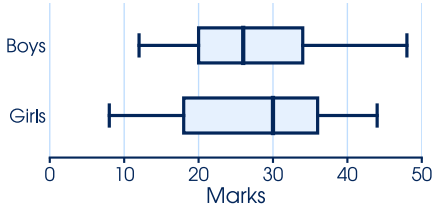
4 Find the mean number of goals.

Goals	0	1	2	3	4
Frequency	5	8	4	2	1

5 Show that the interquartile range is 14.



6 Compare the boys' and girls' marks.



7 Show that an estimate of the mean time is 16 minutes.

Time, t (min)	Frequency
$0 < t \leq 10$	4
$10 < t \leq 20$	10
$20 < t \leq 30$	6

8 The mean of 5 numbers is 12.

Four of them are 8, 10, 15 and 11.

A sixth number is added and the mean becomes 13.

Find the fifth and sixth numbers.

ANSWERS · REVISION MAT 1

Averages, spread and box plots

1 3, 4, 7, 8, 9, 12

7.5

2 **Range 12**

Q1 = 5, Q3 = 11

IQR = 6

3 **The outlier 50 pulls the mean up; the median (4) is typical.**

4 Total 0 + 8 + 8 + 6 + 4 = 26

26 ÷ 20

1.3

5 **34 – 20 = 14**

6 **Girls have a higher median (30 vs 26)**

Boys' IQR 14, girls' 18: boys more consistent

7 Midpoints 5, 15, 25

$$\frac{20 + 150 + 150}{20} = 16$$

8 Total 60: fifth = 60 – 44 = 16

Total of 6: 78

16 and 18