GCSE HIGHER · REVISION MAT 3

Comparing and interpreting data

1 Group X: mean 72, range 40.

Group Y: mean 68, range 15.

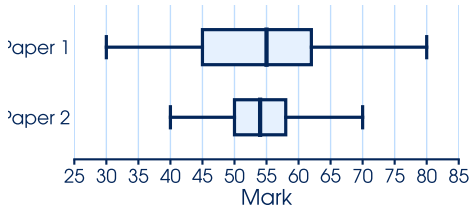
Compare the groups.

2 Ages at a party:
5, 6, 6, 7, 7, 7, 38, 41.

Which average best describes a typical guest? Explain.

3 Explain why you should not compare two groups using only their ranges.

4 Compare the marks.



5 Explain why a sample should be chosen at random.

6 In a sample of 150 people, 45 prefer brand A.

Estimate the number out of 12 000 who prefer brand A.

7 Explain why the median can be found from a cumulative frequency graph but the mean cannot.

8 Last year: median 34 min, IQR 20 min. This year: median 30 min, IQR 8 min.

Has the service improved? Explain.

Mr&Mrs MATHS

ANSWERS · REVISION MAT 3

Comparing and interpreting data

1 X higher on average.

Y more consistent.

2 The mode or median (7): the adults distort the mean.

3 The range depends on two extreme values only.

4 Similar medians (55 vs 54).

Paper 2 is more consistent (IQR 8 vs 17).

5 To avoid bias, so that it represents the population.

6 $\frac{45}{150} \times 12\,000$

3600

7 The median is read at half the total; the mean needs all the actual values.

8 Yes: waits are shorter on average and more consistent.

Mr&Mrs MATHS