

Comparing data using averages and spread

Grade 5 | Foundation and Higher | 12 questions, 46 marks

GCSE Maths topic practice



Scan for the solutions

Name: _____ **Date:** _____ **Score:** _____ / 46

- 1** A shoe shop records the sizes of the last eight pairs of trainers it sold.

5 7 6 5 8 5 9 6

- Write down the modal shoe size.
- Work out the range of the shoe sizes.

(3 marks)

Answer _____

- 2** A hockey team played 25 matches. The table shows the number of goals the team scored in each match.

Goals scored	Frequency
0	4
1	7
2	9
3	3
4	2

- Write down the modal number of goals scored.
- Work out the total number of goals the team scored in the 25 matches.

(3 marks)

Answer _____

- 3 The table shows the number of children in each of 20 families.

Number of children	Frequency
0	3
1	8
2	6
3	3

Work out the mean number of children per family.

(3 marks)

Answer _____

- 4 24 pupils were asked how many books they read in the summer holidays.

Number of books	Frequency
0	5
1	6
2	7
3	4
4	2

Dev says, "The median is 7 because 7 is the middle frequency."

- Explain why Dev is wrong and work out the median number of books.
- Work out the total number of books the 24 pupils read.

(4 marks)

Answer _____

- 5 A small firm has six employees. Their yearly salaries are
£22 000 £24 000 £25 000 £25 000 £27 000 £97 000

The firm wants to advertise a job and tell applicants the "typical" salary.

- Work out the mean salary and the median salary.
- Which average should the firm use to describe the typical salary? Give a reason for your answer.

(4 marks)

Answer _____

- 6 There are 10 boys and 15 girls in a class.
The mean score of the 10 boys in a test was 6.2.
The mean score of the 15 girls in the same test was 5.8.
Mr Field says, "The mean score for the whole class was 6."
Show that Mr Field is wrong.

(3 marks)

Answer _____

- 7 The table shows the number of items bought by each of 40 customers at a corner shop.

Number of items	Frequency
1	12
2	15
3	9
4	4

- Work out the mean number of items bought per customer.
- Kai says, "The mode is 15." Explain the mistake Kai has made.

(4 marks)

Answer _____

- 8 Two classes, A and B, sat the same maths test. The five-figure summaries of their marks are shown in the table.

	Lowest	Lower quartile	Median	Upper quartile	Highest
Class A	12	25	38	46	60
Class B	20	30	38	40	52

- a. Work out the interquartile range for each class.
b. Compare the marks of the two classes. Refer to the median and the interquartile range in your answer.

(4 marks)

Answer _____

- 9 Nine students in Year 7 and nine students in Year 11 ran a race. Here are their times, in seconds.

Year 7: 12 15 15 18 20 21 24 26 28

Year 11: 8 10 13 14 16 19 22 25 27

Compare the times of the Year 7 students with the times of the Year 11 students.

(4 marks)

Answer _____

- 10 Two cafés each recorded the waiting times, in minutes, of seven customers.

Café X: 4 5 5 6 7 8 9

Café Y: 3 4 4 5 5 6 25

- a. Work out the mean and the range of the waiting times for each café.
b. Zara says, "Café X is better because its mean waiting time is lower." Work out the median for each café and explain why the median gives a fairer comparison here.

(5 marks)

Answer _____

- 11** The table shows information about the times, t seconds, taken by 40 swimmers to complete one length of a pool.

Time (t seconds)	Frequency
$20 < t \leq 30$	8
$30 < t \leq 40$	15
$40 < t \leq 50$	12
$50 < t \leq 60$	5

- a. Work out an estimate for the mean time.
b. Explain why your answer to part (a) is an estimate.

(4 marks)

Answer _____

- 12** The table shows information about the distances, d km, that 40 employees travel to work.

Distance (d km)	Frequency
$0 < d \leq 5$	9
$5 < d \leq 10$	16
$10 < d \leq 15$	11
$15 < d \leq 20$	4

- a. Work out an estimate for the mean distance travelled.
b. Write down the modal class.
c. Work out the fraction of the employees who travel more than 10 km. Give your fraction in its simplest form.

(5 marks)

Answer _____

End of questions | Total 46 marks