

GCSE Maths: Mean, median, mode and range (Higher): answers

GCSE Maths - Statistics - Higher - Lesson 24.3

Answers. Final answers to the worksheet questions. Full step-by-step solutions for every question are free at websink.site/gcse/maths/ch24-statistics/higher/mean-median-mode-and-range/

Exercise 24C Mean, median, mode and range

Non-calculator

1 Work out the mean of each set of numbers.

(a) 4, 7, 10

Answer: 7

(b) 12, 15, 9, 14

Answer: 12.5

(c) 3, 8, 5, 6, 8

Answer: 6

(d) 21, 18, 24, 17, 20

Answer: 20

(e) 2.5, 3.5, 4.5

Answer: 3.5

(f) £2.40, £3.60, £1.50, £4.50

Answer: £3

2 Work out the median of each set of numbers.

(a) 5, 9, 2, 7, 3

Answer: 5

(b) 11, 4, 8, 15, 6

Answer: 8

(c) 12, 7, 3, 9

Answer: 8

(d) 20, 14, 18, 22, 11, 16

Answer: 17

(e) 1.5, 0.8, 2.2, 1.1

Answer: 1.3

(f) -3, 5, 0, -8, 2

Answer: 0

3 Write down the mode of each set of data.

(a) 3, 5, 2, 5, 7, 5, 2

Answer: 5

(b) 8, 6, 8, 9, 6, 8, 7

Answer: 8

(c) red, blue, red, green, blue, red

Answer: red

(d) 4, 7, 4, 9, 7, 2 (two modes)

Answer: 4 and 7

4 Work out the range of each set of numbers.

(a) 4, 9, 3, 12, 7

Answer: 9

(b) 15, 22, 18, 30, 25

Answer: 15

(c) 1.2, 0.7, 2.5, 1.9

Answer: 1.8

(d) -3, 5, 0, 8

Answer: 11

5 Here are the numbers of minutes that nine students took to eat lunch: 6, 9, 4, 9, 7, 5, 9, 8, 6. Work out (a) the mean, (b) the median, (c) the mode, (d) the range.

(a) Mean

Answer: 7

(b) Median

Answer: 7

(c) Mode

Answer: 9

(d) Range

Answer: 5

6 Four friends bought drinks costing £2.40, £1.80, £3.20 and £2.60. Work out the mean cost of a drink.

Answer: £2.5

7 Work out the missing number each time.

(a) The mean of four numbers is 7. Three of them are 5, 8 and 9. Find the fourth number.

Answer: 6

(b) The mean of five numbers is 12. Four of them are 10, 15, 11 and 14. Find the fifth number.

Answer: 10

(c)

The mean mass of six parcels is 4.5 kg. Five parcels weigh 3, 5, 4, 6 and 4.5 kg. Find the mass of the sixth parcel.

Answer: 4.5 kg

- 8 Chloe sat five tests. Her scores were 14, 17, 12, 15 and 17 out of 20. She wants a mean of 15 after a sixth test. What score does she need in the sixth test?

Answer: 15

- 9 Five people earn £18 000, £20 000, £21 000, £22 000 and £150 000 a year. Which average, the mean or the median, gives a better idea of what the people typically earn? Give a reason.

Answer: The median (£21 000), because the very large salary pulls the mean up to £46 200.

- 10 Aisha has to find the median of 3, 9, 4, 7 and 5. She says the median is 4 because it is the middle number in the list. Explain her mistake and work out the correct median.

Answer: 5

- 11 The list 4, 5, 6, 7, 8 has mean 6 and median 6. The number 8 is changed to 28, giving 4, 5, 6, 7, 28.

(a) Work out the new mean.

Answer: 10

(b) Work out the new median.

Answer: 6

(c) Which average changed more?

Answer: The mean

- 12 The mean of 8 numbers is 12. A ninth number, 21, is added. Work out the mean of the nine numbers.

Answer: 13

- 13 Class A has 10 students and a mean mark of 62. Class B has 15 students and a mean mark of 70. Work out the mean mark of all 25 students.

Answer: 66.8

- 14 Write down five numbers with a mean of 6 and a range of 7.

Answer: For example 2, 6, 6, 7, 9

- 15 Four whole numbers have a mean of 5, a median of 4.5 and a mode of 3. Find the four numbers, written in order.

Answer: 3, 3, 6, 8