



**Bishops
Online
Tutoring**



Education Consultancy

Edexcel GCSE Mathematics

MEAN, MEDIAN MODE & RANGE

Materials Required:

- Pen
- HB Pencil
- Ruler (in centimetres and millimetres)
- Protractor
- Compass

Instructions:

- Use a black ink pen to answer all questions
- Fill your name in the section below
- Answer the questions in the spaces provided
- Show your working out for all answers

Information:

- The marks allocated for each question are displayed within brackets – utilise this information to gauge the appropriate amount of time to dedicate to each question
- Questions marked with an asterisk (*) will assess your written communication; be careful of spelling, punctuation and grammar with these questions

Advice:

- Carefully read the question before attempting to answer it
- Be vary of time and try to answer every question
- If you have enough time in the end, go back and check your answers. A good way to check your answers is to retry the question with the hope of getting the same answer as before without looking at your working out from before

NO CALCULATOR ALLOWED

NAME:

1. Chloe made a list of her homework marks.

4 5 5 5 4 3 2 1 4 5

- (a) Write down the mode of her homework marks.

Mode = Most Common 5 (1)

- (b) Work out her mean homework mark.

..... 3.8 (2)
 $4 + 5 + 5 + 5 + 4 + 3 + 2 + 1 + 4 + 5$
 $= 38$ $38 \div 10 = 3.8$ (Total 3 marks)

2. Peter rolled a 6-sided dice ten times.
Here are his scores.

3 2 4 6 3 3 4 2 5 4

- (a) Work out the median of his scores.

2, 2, 3, 3, 3, 4, 4, 4, 5, 6 3.5 (2)
 $3 + 4 = 7$ $7 \div 2 = 3.5$

- (b) Work out the mean of his scores.

$3 + 2 + 4 + 6 + 3 + 3 + 4 + 2 + 5 + 4$ 3.6 (2)
 $= 36$ $36 \div 10 = 3.6$

- (c) Work out the range of his scores.

$6 - 2 = 4$ 4 (1)
(Total 5 marks)

3. Here are the weights, in kg, of 8 people.

63 65 65 70 72 86 90 97

(a) Write down the mode of the 8 weights.

.....65..... kg (1)

(b) Work out the range of the weights.

$$\begin{aligned} 97 - 63 \\ = 34 \end{aligned}$$

.....34..... kg (2)
(Total 3 marks)

4. Here are the ages of 6 people.

5 18 10 14 22 12

(a) Work out the range of these ages.

$$22 - 5 = 17$$

.....17..... (1)

(b) Find the median age.

$$\begin{aligned} &\cancel{5}, \cancel{18}, 12, 14, \cancel{18}, \cancel{22} \\ &12 + 14 = 26 \\ &26 \div 2 = 13 \end{aligned}$$

.....13..... (2)

(c) Work out the mean age.

$$\begin{aligned} 5 + 18 + 10 + 14 + 22 + 12 \\ = 81 \end{aligned}$$

$$81 \div 6 = 13.5$$

.....13.5..... (2)
(Total 5 marks)

5. Here are the shoe sizes of 6 students.

2 10 7 6 10 9

(a) Work out the range of these shoe sizes.

$$10 - 2 = 8 \quad \text{.....} \quad 8 \quad (1)$$

(b) Find the median shoe sizes.

$$2, 6, 7, 9, 10, 10$$
$$7 + 9 = 16 \quad 16 \div 2 = 8 \quad \text{.....} \quad 8 \quad (2)$$

(c) Work out the mean shoe sizes.

$$2 + 10 + 7 + 6 + 10 + 9$$
$$= 44 \quad 44 \div 6 = 7.3 \quad \text{.....} \quad 7 \quad (2)$$

(Total 5 marks)

6. Jalin wrote down the ages, in years, of seven of his relatives.

45, 38, 43, 43, 39, 40, 39

(a) Find the median age.

$$38, 39, 39, (40), 43, 43, 45 \quad \text{.....} \quad 40 \quad (1)$$

(b) Work out the range of the ages.

$$45 - 38 = 7 \quad \text{.....} \quad 7 \quad (1)$$

(c) Work out the mean age.

$$45 + 38 + 43 + 43 + 39 + 40 + 39$$
$$= 287 \quad 287 \div 7 = 41 \quad \text{.....} \quad 41 \quad (2)$$

(Total 4 marks)

7. Mr Smith kept a record of the number of absences for each student in his class for one term.

Here are his results.

0 0 0 8 4 5 5 3 2 1

- (a) Write down the mode.

.....0..... (1)

- (b) Work out the mean.

$$0+0+0+8+4+5+5+3+2+1$$

$$= 28 \quad 28 \div 10 = 2.8$$

.....2.8..... (2)

(Total 3 marks)

8. Here are 10 numbers.

3 2 5 4 2 4 6 2 1 2

- (a) Find the mode of these numbers.

.....2..... (1)

- (b) Find the median of these numbers.

$$1, 2, 2, 2, 2, 3, 4, 4, 5, 6$$

$$2 + 3 = 5 \quad 5 \div 2 = 2.5$$

.....2.5..... (2)

- (c) Find the range of these numbers.

$$6 - 1 = 5$$

.....5..... (2)

(Total 5 mark)

9. Here are the test marks of 6 girls and 4 boys.

Girls: 5 3 10 2 7 3

Boys: 2 5 9 3

(a) Write down the mode of the 10 marks.

$$\text{Girls} - 10 - 2 = 8$$

$$\text{Boys} - 9 - 2 = 7$$

Girls - 8

Boys - 7

(1)

(b) Work out the median mark of the boys.

2, 3, 5, 9

$$3 + 5 = 8 \quad 8 \div 2 = 4$$

4

(2)

(c) Work out the range of the girls' marks.

$$10 - 2 = 8$$

8

(1)

(d) Work out the mean mark of all 10 students.

$$5 + 3 + 10 + 2 + 7 + 3$$

$$+ 2 + 5 + 9 + 3 = 49$$

$$49 \div 10 = 4.9$$

4.9

(2)

(Total 6 marks)

10. Here are ten numbers.

7 6 8 4 5 9 7 3 6 7

(a) Work out the range.

$$9 - 3 = 6$$

6

(2)

(b) Work out the mean.

$$7 + 6 + 8 + 4 + 5 + 9 + 7$$

$$+ 3 + 6 + 7 = 62$$

$$62 \div 10 = 6.2$$

6.2

(2)

(Total 4 marks)

11. Here are fifteen numbers.

10	12	13	15	15
17	19	20	20	20
21	25	25	25	25

(a) Find the mode.

..... 25
(1)

(b) Find the median.

10, 17, 17, 15, 15, 17, 17, (20), 20, 20, 21, 25, 25, 25, 25
..... 20
(1)

(c) Work out the range.

..... 15
25 - 10 = 15
(2)
(Total 4 marks)

12. A rugby team played 7 games.

Here is the number of points they scored in each game.

~~3~~ ~~5~~ ~~8~~ 9 ~~12~~ ~~12~~ ~~16~~

(a) Find the median.

..... 9
(2)

The rugby team played another game.

They scored 11 points.

(b) Find the median number of points scored in these 8 games.

3, 5, 8, 9, 11, 12, 12, 16
..... 10
9 + 11 = 20 20 ÷ 2 = 10
(3)
(Total 5 marks)

13. Tom recorded the shoe size of five of his friends. Here are his results.

8 9 3 4 7

(a) Work out the median shoe size.

3, 4, 7, 8, 9

..... 7

(2)

Another friend has a shoe size of 8

(b) Work out the median shoe size of all **six** friends of Tom.

3, 4, 7, 8, 8, 9

$$7 + 8 = 15$$

$$15 \div 2 = 7.5$$

..... 7.5

(2)

(Total 4 marks)

14. The mean of eight numbers is 41
The mean of two of the numbers is 29

What is the mean of the other six numbers?

$$41 \times 8 = 328$$

$$29 \times 2 = 58$$

$$328 - 58 = 270$$

$$270 \div 6 = 45$$

..... 45

(Total 3 marks)