

Name: \_\_\_\_\_

## GCSE (1 – 9)

### Averages

#### Instructions

- Use **black** ink or ball-point pen.
- Answer all Questions.
- Answer the Questions in the spaces provided  
– *there may be more space than you need.*
- Diagrams are **NOT** accurately drawn, unless otherwise indicated.
- You must **show all your working out.**

#### Information

- The marks for each Question are shown in brackets  
– *use this as a guide as to how much time to spend on each Question.*

#### Advice

- Read each Question carefully before you start to answer it.
- Keep an eye on the time.
- Try to answer every Question.
- Check your answers if you have time at the end

1 Here is a list of 10 numbers.

2 3 4 4 4 5 6 6 7 7

(a) Work out the range.

$$7 - 2 = 5$$

5  
.....  
(1)

(b) Find the mode.

(c) Calculate the mean.

4  
.....  
(1)

$$2 + 3 + 4 + 4 + 4 + 5 + 6 + 6 + 7 + 7 = 48$$

$$\frac{48}{10} = 4.8$$

4.8  
.....  
(2)

(Total for question 14 is 4 marks)

2 Here is a list of 5 numbers.

4 6 9 10 11

(a) Work out the range.

$$11 - 4 = 7$$

7  
.....  
(1)

(b) Write down the median.

(c) Calculate the mean.

9  
.....  
(1)

$$4 + 6 + 9 + 10 + 11 = 40$$

$$\frac{40}{5} = 8$$

8  
.....  
(2)

(Total for question 2 is 4 marks)



5 Here are six cards. Each card has a number on it.

19	7	11	8	15	15
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(a) Work out the range of the numbers on the cards.

$$19 - 7 = 12$$

$$\begin{array}{r} 12 \\ \hline \end{array} \quad (1)$$

(b) Work out the mean of the numbers on the cards.

~~$$19 + 7 =$$~~

$$19 + 11 + 15 + 15 + 8 + 7 = 75$$

$$\frac{75}{6} = 12.5$$

$$\begin{array}{r} 12.5 \\ \hline \end{array} \quad (2)$$

(Total for question 5 is 3 marks)

6 Here is a list of 10 numbers.

1    4    4    5    6    8    11    11    11    14

(a) Work out the range.

$$14 - 1 = 13$$

$$\begin{array}{r} 13 \\ \hline \end{array} \quad (1)$$

(b) Find the mode.

$$\begin{array}{r} 11 \\ \hline \end{array} \quad (1)$$

(Total for question 6 is 2 marks)



8

Here is a list of numbers.

8 6 4 5 9 8

(a) Work out the median

4 5 6 8 8 9  
↑

$$\frac{6 + 8}{2} = 7$$

$$\begin{array}{r} 7 \\ \hline (2) \end{array}$$

Here are six cards.

There is a number on each card.

Two of the numbers are hidden.

4	5	?	6	3	?
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The mode of the six numbers is 4

The mean of the six numbers is 5

Work out the two numbers that are hidden.

There must be at least  
one more 4.

4	5	4	6	3	x
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The numbers must add to  $5 \times 6 = \underline{30}$ 

$$4 + 5 + 6 + 3 + 4 = 22$$

$$30 - 22 = 8$$

$$\begin{array}{r} 4 \quad 8 \\ \hline (2) \end{array}$$

(Total for question 8 is 3 marks)



- 11 The mean of eight numbers is 41.  
The mean of two of the numbers is 29.  
Work out the mean of the other six numbers.

$$8 \times 41 = 328 \quad \text{All numbers total } 328$$

$$2 \times 29 = 58 \quad \text{Two numbers total } 58$$

$$328 - 58 = 270$$

$$\frac{270}{6} = 45$$

.....45.....

(Total for question 11 is 3 marks)

- 12 Mark ran a mean distance of 13.2 km in five days.

The next day Mark ran 20 km.

Find the mean distance Mark ran in the six days.

$$13.2 \times 5 = 66 \text{ km in } 5 \text{ days}$$

$$66 + 20 = 86 \text{ in } 6 \text{ days}$$

$$\frac{86}{6} = 14.\dot{3} \text{ km}$$

.....14. $\dot{3}$ ..... km

(Total for question 12 is 3 marks)