



Averages and The Range

← REVISE THIS TOPIC



1 Here is a list of numbers.



2 3 3 6 7 10 11

(a) Write down the mode

3

(1)

(b) Work out the range

$$11 - 2$$

9

(1)

(c) Work out the median

~~2~~ ~~3~~ ~~3~~ 6 7 ~~10~~ ~~11~~

6

(2)

(d) Work out the mean

$$2 + 3 + 3 + 6 + 7 + 10 + 11 = 42$$
$$42 \div 7 = 6$$

6

(2)

(Total for Question 1 is 6 marks)





2 Here is a list of numbers.

6 10 8 10 4 4 3 10 8

(a) Write down the mode

10

(1)

(b) Work out the range

10 - 3

7

(1)

(c) Work out the median

3 4 4 6 8 8 10 10 10

8

(2)

(d) Work out the mean

$3 + 4 + 4 + 6 + 8 + 8 + 10 + 10 + 10 = 63$
 $63 \div 9 = 7$

7

(2)

(Total for Question 2 is 6 marks)





3 Here is a list of numbers.

10 6 1 9 7 9

(a) Write down the mode

9

(1)

(b) Work out the range

$$10 - 1$$

9

(1)

(c) Work out the median

~~1~~ ~~6~~ 7 9 ~~9~~ ~~10~~

8

(2)

(d) Work out the mean

$$1 + 6 + 7 + 9 + 9 + 10 = 42$$

$$42 \div 6 = 7$$

7

(2)

(Total for Question 3 is 6 marks)



4 Here is a list of numbers.

7 13 16 23 6 12 16 11

(a) Write down the mode

16

(1)

(b) Work out the range

$$23 - 6$$

17

(1)

(c) Work out the median

~~6~~ ~~7~~ ~~11~~ 12 13 ~~16~~ ~~16~~ ~~23~~

12.5

(2)

(d) Work out the mean

$$6 + 7 + 11 + 12 + 13 + 16 + 16 + 23 = 104$$

$$104 \div 8 = 13$$

13

(2)

(Total for Question 4 is 6 marks)



5 Here is a list of numbers.

37 44 49 55 55 60

(a) Write down the mode

55

 (1)

(b) Work out the range

$$60 - 37$$

23

 (1)

(c) Work out the median

~~37~~ ~~44~~ 49 55 ~~55~~ ~~60~~

52

 (2)

(d) Work out the mean

$$37 + 44 + 49 + 55 + 55 + 60 = 300$$

$$300 \div 6 = 50$$

50

 (2)

(Total for Question 5 is 6 marks)



6 Here is a list of numbers.

-5 -4 0 4 4 13

(a) Write down the mode

4

(1)

(b) Work out the range

$$13 - (-5)$$

18

(1)

(c) Work out the median

~~-5~~ ~~-4~~ 0 4 ~~4~~ ~~13~~

2

(2)

(d) Work out the mean

$$13 + 4 + 4 + 0 - 4 - 5 = 12$$

$$12 \div 6 = 2$$

2

(2)

(Total for Question 6 is 6 marks)



7 Here is a list of numbers.

4 -8 3 -8 8 -10 -3

(a) Write down the mode

-8

 (1)

(b) Work out the range

$$8 - (-10)$$

18

 (1)

(c) Work out the median

~~-10~~, ~~-8~~, ~~-8~~, -3, ~~3~~, ~~4~~, ~~8~~

-3

 (2)

(d) Work out the mean

$$8 + 4 + 3 - 3 - 8 - 8 - 10 = -14$$

$$-14 \div 7 = -2$$

-2

 (2)

(Total for Question 7 is 6 marks)



8 Here is a list of numbers.

1 6 3 9 7 13 10

Caleb works out the median.
His working is shown below.

~~1~~ ~~6~~ ~~3~~ 9 ~~7~~ ~~13~~ ~~10~~

median = 9

Caleb's answer is incorrect.
Explain the mistake that he has made.

He did not put the numbers
in order first.

(Total for Question 8 is 1 mark)

9 Here is a list of numbers.

3 5 7 10 15

Phil works out the mean.
His working is shown below.

$$3 + 5 + 7 + 10 + 15 \div 5 = 28$$

mean = 28

Phil's answer is incorrect.
Explain the mistake that he has made.

He should have added the numbers
to get a total. Then divide this by 5.
In his working the $\div 5$ will be done first.

(Total for Question 9 is 1 mark)



10 Here is a list of numbers.

6 4 8 17 13 20 26

Tina works out the range.
Her working is shown below.

$$26 - 6 = 20$$

$$\text{range} = 20$$

Tina's answer is incorrect.
Explain the mistake that she has made.

The smallest number is 4 and not 6

(Total for Question 10 is 1 mark)

11 Here is a list of letters.

A B B A C C A B C C

Write down the mode

C

(Total for Question 11 is 1 mark)

12 The range of a set of number is 9.
The smallest number is 4.

Work out the largest number.

$$4 + 9$$

13

(Total for Question 12 is 1 mark)



13 The table shows the maths test scores of five students.

Jason	Zach	Billy	Trini	Kimberley
48%	68%	73%	77%	69%

(a) Work out the range of the maths test scores.

$$77 - 48$$

$$\frac{29}{(1)} \%$$

Zach says "my test score was above the average"

(b) Show that when using the **mean** average, Zach is correct.

$$48 + 68 + 73 + 77 + 69 = 335$$

$$335 \div 5 = 67\%$$

$$68\% > 67\%$$

(2)

(c) Show that when using the **median** average, Zach is incorrect.

$$\cancel{48}, \cancel{68}, 69, \cancel{73}, \cancel{77}$$

$$\text{median} = 69\%$$

$$68\% < 69\%$$

(2)

(Total for Question 13 is 5 marks)

