

# GRAYS TUITION CENTRE – Online Tutoring

**WEEK: 3**

**Week Beginning: (04/01/2021)**

**Subject: MATHS**

**Year: 6**

## Lesson Objective:

- Understand Mean, Median, Mode and Range
- Be able to work backwards to work out sum when given mean
- Be able to use mean, median and range to comment on data

## Class Worksheets

- Explanation on how to work out Mean, Median, Mode and Range
- Follow up worksheet

## Homework

- Additional questions on Mean, Median, Mode and Range – looking at data

## Additional Notes

- All lesson worksheets and **homework for next week (due Week 4)** worksheets can be found below
- Week 2 homework will be marked in lesson

1. James has a spinner that has sections labelled 1 to 5.



He spins the spinner 10 times.

Here are his scores.

1 4 4 2 3 4 5 1 4 1

(a) Find the mode.

.....  
(1)

(b) Work out the mean.

.....  
(2)

(c) Work out the range.

.....  
(2)

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2. Simone records the number of minutes she spends on her mobile phone over 7 days.



8 5 13 6 24 19 10

Find the median.

.....minutes  
(2)

3. Here are the ages of 9 children at a birthday party.



10 12 13 10 11 14 15 10 12

(a) Find the mode.

.....  
(1)

(b) Find out the median.

.....  
(2)

(c) Work out the range.

.....  
(2)

(d) Work out the mean.

.....  
(2)

4. A football team played six games.



Here are the number of goals they scored in each game:

6   0   3   2   2   5

(a) Work out the median number of goals scored.

.....  
(2)

(b) Work out the mean number of goals scored.

.....  
(2)

The football team play one more game.

The mean number of goals scored increases to 4.

(c) Work out the number of goals scored in the seventh game.

.....  
(2)

5. Miss Jones gives her class a test.  
The test is out of 40 marks.



Here are their scores.

31 29 20 35 32 38 32

- (a) Work out the mode.

.....  
**(1)**

- (b) Work out the median.

.....  
**(2)**

- (c) Work out the range.

.....  
**(2)**

The pass mark for the test is 75%.

- (d) How many students pass the test?

.....  
**(2)**

6. Hannah is recording the number of letters in each word in an article.



These are the first ten lengths.

3    4    5    6    2    4    3    7    3    6

(a) Work out the median.

.....  
(2)

(b) Calculate the mean.

.....  
(2)

The 11<sup>th</sup> word has 4 letters.

(c) Tick the box which describes what affect this will have on the mean.

The mean will  
decrease

The mean will  
remain the same

The mean will  
increase

(1)

(d) Tick the box which describes what affect this will have on the median.

The median will  
decrease

The median will  
remain the same

The median will  
increase

(1)

7. Shown below are five cards which are arranged in order from smallest to largest



The range of the cards is 4.  
The median of the cards is 8.  
The mean of the cards is 7.

Work out the 4 missing numbers.

....., ....., ..... and .....  
(4)

8. 8 boys and 8 girls from a class run 100m.



The times taken, to the nearest second, for each girl are:

15   20   24   18   19   21   26   29

The mean of the boys' times is 25 seconds.

The range of the boys' times is 14 seconds.

Thomas says that "the boys in our class are faster than the girls."

Is he correct?

(5)



9. A set of six numbers have a median of 5.  
All of the numbers are even.  
The range of the numbers is 6.  
The mode of the numbers is 4.



Write down a possible set of six numbers.

....., ....., ....., ....., ..... and .....  
(4)

## Homework Questions:

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.

..... (1)

- (b) Work out her mean homework mark.

..... (2)

**(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)

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

..... (2)

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

..... (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.

..... kg  
(1)

(b) Work out the range of the weights.

..... 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.

.....  
(1)

(b) Find the median age.

.....  
(2)

(c) Work out the mean age.

.....  
(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.

.....

(1)

(b) Find the median shoe sizes.

.....

(2)

(c) Work out the mean shoe sizes.

.....

(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.

.....

(1)

(b) Work out the range of the ages.

.....

(1)

(c) Work out the mean age.

.....

(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.

.....

(1)

- (b) Work out the mean.

.....

(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.

.....

(1)

- (b) Find the median of these numbers.

.....

(2)

- (c) Find the range of these numbers.

.....

(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.

..... (1)

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

..... (2)

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

..... (1)

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

..... (2)  
(Total 6 marks)

10. Here are ten numbers.

7 6 8 4 5 9 7 3 6 7

(a) Work out the range.

..... (2)

(b) Work out the mean.

..... (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.

..... (1)

(b) Find the median.

..... (1)

(c) Work out the range.

..... (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.

..... (2)

The rugby team played another game.  
They scored 11 points.

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

..... (3)

**(Total 5 marks)**