

HOME LEARNING

Year 11	Mean, mode, median, range	Home Learning 13
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Introduction: To find the average

Learning Objective	Worksheet Title
To find the average using mean, median, mode and range	Find the Median
	Find the Range
	Mean, median, mode, range problems 2
	Mean, median, mode, range sheet 5
	Problems

More Practice:

- Find your own data i.e. football results, and work out the mean, mode and median

Other Activities:

- Aim to spend 10 minutes a day on Times Table Rock Star; Sumdog or Numbots
- Aim to complete 1-2 MyMaths tasks a week (keep retrying until you get a green)
- Learn to play a new game or get better at playing a game you already know (e.g. Monopoly; Chess; draughts; cards; dominoes; etc....)
- Practise one of the times-tables
- Have a go at today's 5-a-day Maths questions: <https://corbettmaths.com/5-a-day/gcse/>

'Please return work you complete to your Maths teacher (jcoleman@bower-grove.kent.sch.uk; acroft@bower-grove.kent.sch.uk; or kwiley@bower-grove.kent.sch.uk) to receive feedback and golden tokens'

Mean

The average value

How to find the Mean:

1. Add up all the numbers.
2. Divide the sum by the number of values.

E.g. The mean of 3,2,10,5 is

$$\frac{3+2+10+5}{4} = \frac{20}{4} = 5$$

Median

The middle number

How to find the Median:

1. Put the numbers from smallest to largest.
2. The number in the middle is the median. If there are two middle numbers, add them and divide by two.

Mode

The most frequent number

Special Cases:

- No Mode if all the numbers occur the same amount of times.
- More than one Mode if more than one number is the most frequent.

Range

Difference between highest and lowest numbers

How to find the Range:

1. Put the numbers from smallest to largest.
2. Subtract the lowest value from the largest.

Name

Date



FIND THE MEDIAN SHEET 1

Find the median of these data points. Odd number of data points.

Question	Order	Median
1) 16, 24, 8, 12, 19	8, 12, <u>16</u> , 19, 24	16
2) 13, 5, 2, 10, 8		
3) 4, 1, 1, 6, 5		
4) 15, 32, 53, 27, 11		
5) 89, 38, 94		
6) 75, 29, 12, 17, 15		
7) 73, 91, 56, 24, 14, 17, 10		
8) 67, 13, 121, 86, 55		
9) 142, 173, 129, 156, 181		
10) 257, 366, 305, 286, 182		
11) 362, 326, 263		
12) 82, 106, 91, 115, 78, 83, 102		
13) 873, 783, 837, 387, 738		
14) 428, 417, 472, 456, 409		
15) 3, 19, 26, 3, 8, 37, 12, 5, 0		
16) 819, 862, 851, 904, 786		

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FIND THE RANGE SHEET 1

Find the range in each of the sets of data below by ordering the numbers and then finding the difference between the highest and lowest.

Data	Ordered list	Range
1) 45, 23, 17, 20, 27, 11	11, 17, 20, 23, 27, 45	$45-11=34$
2) 6, 23, 12, 19, 2, 7		
3) 19, 26, 23, 35, 29, 21		
4) 5, 2, 0, 8, 11, 16, 10		
5) 62, 78, 56, 61, 59, 83		
6) 73, 87, 65, 92, 89, 91		
7) 18, 6, 23, 2, 15, 21, 7		
8) 3, 16, 12, 18, 6, 4, 19, 4		
9) 25, 47, 32, 21, 58, 52, 39		
10) 0.3, 0.9, 0.4, 1.2, 0.5		
11) 2.3, 3.6, 1.4, 1.1, 3.7		
12) 6.2, 1.7, 5.1, 4.6, 1.3, 1.7		
13) 12.8, 5.4, 9, 2, 3.6, 9.7		
14) 26, 15, 74, 61, 19, 8, 53		
15) 0.9, 0.3, 0.4, 1.6, 0.7, 1.5		
16) 76, 23, 15, 92, 11, 37, 101		



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MEAN, MEDIAN, MODE AND RANGE PROBLEMS 2

1) In a times table test, a group of 9 children score 25, 17, 21, 25, 23, 21, 27, 21 and 18 out of a total of 30. Find their mean, median, mode and range.

Mean	Median	Mode	Range
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2) The salamanders have a competition to see how far they can jump. Their results are as follows:

Captain	Sally	Quadra	Tyger	Frazer	Quadra
2.3m	3.5m	1.7m	4.3m	2.1m	1.7m

Find the mean, median, mode and range of their jumps.

Mean	Median	Mode	Range
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3) On a day in January the temperatures for 7 places around the world are as follows:

Amsterdam 5°C	Hong Kong 15°C	Moscow -17°C	Toronto -17°C
Cape Town 20°C	Minneapolis -21°C	New York -6°C	

Find the mean, median, mode and range of temperatures.

Mean	Median	Mode	Range
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Name _____

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MEAN, MEDIAN, MODE AND RANGE SHEET 5

Find the mean, median, mode and range in each of the sets of data.

1)	61, 57, 49, 60, 45, 51, 57, 60, 53, 57, 55, 48, 65, 52			
order	45,			
	Mean	Median	Mode	Range
2)	129, 113, 110, 123, 112, 115, 110, 124, 121, 113, 115, 121, 115			
order				
	Mean	Median	Mode	Range
3)	14, 7, 4, 8, 12, 4, 2, 9, 7, 11, 15, 12, 11, 11, 8, 11, 7			
order				
	Mean	Median	Mode	Range
4)	83, 77, 81, 79, 85, 77, 76, 72, 87, 81, 83, 77, 91, 81, 77			
order				
	Mean	Median	Mode	Range
5)	0.7, 0.2, 0.9, 1.2, 1.5, 0.4, 0.6, 0.2, 1.1, 0.3, 0.7, 0.2, 1.1			
order				
	Mean	Median	Mode	Range
6)	6.2, 5.6, 4.9, 5.1, 6.2, 5.7, 5.1, 4.7, 5.4, 6.2, 4.5, 6.4			
order				
	Mean	Median	Mode	Range

Problems

16. (c) Two numbers have a mean of 12 and a range of 6
What are the two numbers?

Answer: and (2)

- (d) A set of five numbers has a mean of 7, a median of 6 and a mode of 5

(i) Write down a possible set of five numbers.

Answer:,,,, (3)

(ii) Write down another possible set of five numbers.

Answer:,,,, (1)

Question 24

Below is a list of numbers that Wanda collected on her travels.

3 45 24 41 36 48 22 45 8 11 45

a) What is the mode of this data set?

Answer _____

b) What is the range of this data set?

Answer _____

c) What is the median of this data set?

Answer _____

[3 Marks]