

Math 9 – Unit 1: Real Numbers

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Lesson #5: Statistics

Learning Goal: We are learning to collect, organize, analyze and display data

Statistics is a branch of Mathematics. It deals with collecting data, organizing, and analyzing it, then finally interpreting, and presenting it. In this lesson, we will look at analyzing and presenting data.

There are many ways to analyze data, but we will focus our attention on the **mean**, **median**, and **mode**.

The **mean** is *the average of all the numbers*
- add all the numbers, then divide by the number of numbers

The **median** is *the middle number*

① Sort the list from smallest to largest

② If the list has an odd # of #'s, the median is the middle

~~The mode is~~ ③ If the list has an even # of #'s, the median is the average of the two middle numbers

The mode is the most occurring number.

Example 1: Test scores in a Math class were as follows: 78, 67, 85, 81, 90, 74, 95, 85, 80, 92. Calculate the mean, median, and mode.

67, 74, 78, 80, 81, 85, 85, 90, 92, 95

Mode: 85

Median: $\frac{81+85}{2} = 83$

Mean: $\frac{827}{10} = 82.7$

Example 2: Hits at a week's worth of baseball games were recorded as follows: 13, 16, 6, 10, 7, 8, 9. Calculate the mean, median and mode.

6, 7, 8, 9, 10, 13, 16

Mode: no mode / NA / none / nada / el zippo

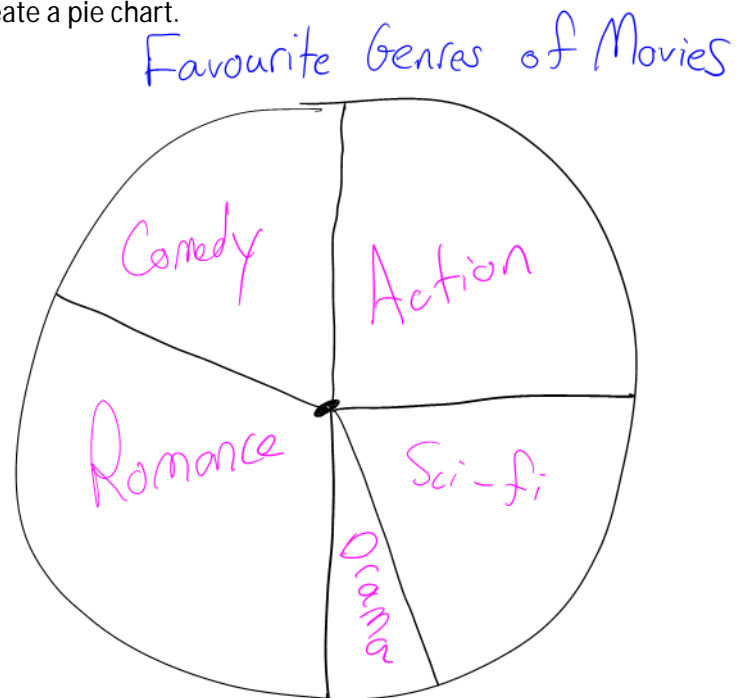
Median: 9

Mean: $\frac{69}{7} = 9.9$

Pie Charts are a quick and useful way to present data. The first step, after organizing the data, is to calculate the percents for each category.

Example 3: Twenty people were asked to indicate their favourite movie genre. The results are in the table below. Calculate the percentages of each category, then create a pie chart.

Favourite Movie Genre		
Comedy	4	$\frac{4}{20} = 0.2 = 20\%$
Romance	6	$\frac{6}{20} = 0.3 = 30\%$
Drama	1	$\frac{1}{20} = 0.05 = 5\%$
Sci-fi	4	$\frac{4}{20} = 0.2 = 20\%$
Action	5	$\frac{5}{20} = 0.25 = 25\%$
<u>20</u>		<u>100%</u>



Success Criteria:

- I can analyze data using mean, median, and mode
- I can display data using percentages and pie charts