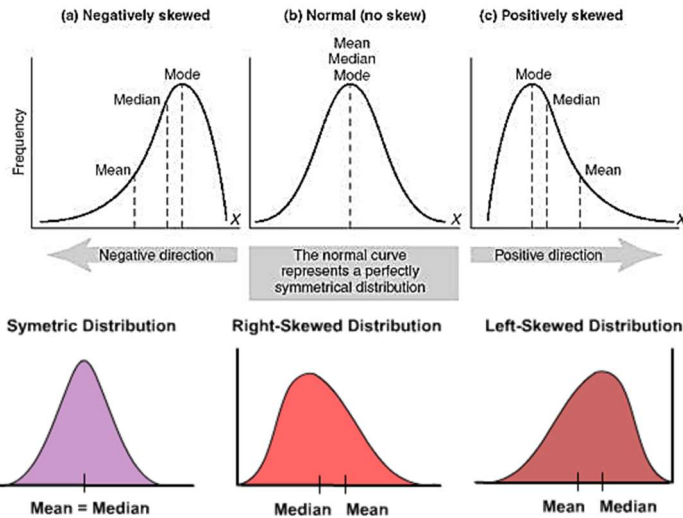


Data can also be skewed based on the relationship between the Mean, Median and Mode. The way we describe the skew is based on the direction of the “tail”.



Measures of Center: Mean, Median & Mode

Mean (a.k.a. “average”)

You find the mean by: adding up all the numbers in your data set and dividing by the number of numbers in the set.

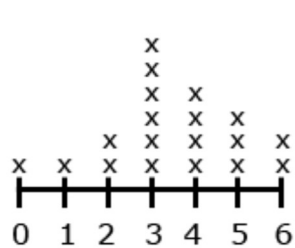
Example: Find the mean of 6, 4, 10, 11 and 4.

Solution: $6 + 4 + 10 + 11 + 4 = 35$

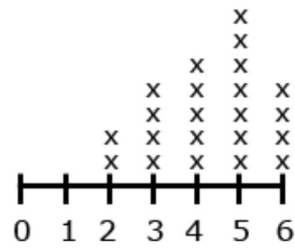
$35 \div 5 = 7$; The mean of this data is 7.

You Try: Find the mean of 8, 33, 20, 11, 6 and 12.

Graph A:
Number of Siblings



Graph B:
Number of Pets



Now, look at the **SHAPE** of both graphs.

Which graph is skewed left? _____

Do either of the graphs have an outlier? _____

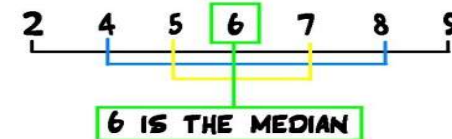
What is the peak of Graph B? _____

Does Graph A have any gaps? _____

Median (a.k.a. “the middle”)

The median is the **middle** number when all data values are in **order**. If there are two middle numbers, find the **mean (average)** of the two numbers.

Example: Find the median of 2, 8, 9, 5, 6, 7, and 4.



You Try: Find the median of 8, 33, 20, 11, 6, and 12.

Mode (a.k.a. “the most”)

The mode is the number that occurs the **most** in a set of data. You will have **no mode** if all of the numbers in your data have the same frequency. You will have **more** than one mode if more than one number occurs most in a data set.

Example: Find the mode of 6, **4**, 10, 11, and **4**. Mode = **4**

You Try:

a. Find the mode of 8, 33, 20, 11, 6, and 12. _____

b. Find the mode of 1, 3, 4, 1, 5, 6, and 3. _____

c. Find the mode of 15, 62, 76, and 62. _____

More Practice: Find the mean, median and mode for the following data:

3, 5, 13, 6, 1, 2, 3, 2, 1

Mean: _____

Median: _____

Mode: _____

100, 111, 122, 133, 144, 155, 166

Mean: _____

Median: _____

Mode: _____

84, 140, 105, 119, 105, 84, 105

Mean: _____

Median: _____

Mode: _____

Mean, Median & Mode Extra Practice

1) What is the **median** of the following set of numbers? _____

{1, 2, 4, 6, 4}

2) What is the **mean** of the following set of numbers? _____

{4, 3, 1, 9, 3, 7, 3, 5, 10}

3) What is the **median** of the following set of numbers? _____

{4, 9, 6, 3, 4, 2}

4) What is the **mode** of the following set of numbers? _____

{1, 2, 4, 6, 4}

5) What is the **mean** of the following set of numbers? _____

{8, 10, 10, 10, 4, 6, 8}

6) What is the **median** of the following set of numbers? _____

{8, 10, 8, 5, 4, 7, 5, 10, 8}

7) What is the **mode** of the following set of numbers? _____

{8, 10, 8, 5, 4, 7, 5, 10, 8, 10}

8) What is the **median** of the following set of numbers? _____

{18, 17, 9, 9, 14, 20, 18}

9) What is the **mode** of the following set of numbers? _____

{16, 18, 10, 12, 11, 5, 9}

10) What is the **mean** of the following set of numbers? _____

{15, 17, 16, 10, 17, 7, 11, 19}