AMDM Name\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Unit 3: Statistics Date\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Period\_\_\_\_\_\_\_

***How to Calculate Summary Statistics***

**How do I calculate the MEAN of a set of data?**

* Divide the sum of the data values by the number of data values 

**How do I calculate the MEDIAN of a set of data?**

* Order the numbers from \_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_
* If there is an odd number of numbers, the \_\_\_\_\_\_\_\_\_\_ number is the median
* If there is an even number of numbers, the \_\_\_\_\_\_\_\_\_\_ of the two middle numbers is the median

**How do I determine the MODE of a set of data?**

The mode is the number that occurs the \_\_\_\_\_\_\_\_\_\_ in a set of data; there can be more than one mode or no mode

**How do I calculate the RANGE of a set of data?**

Find the difference between the \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ data values

**How do I determine the QUARTILES of a set of data?**

* Order the observations from \_\_\_\_\_\_\_\_\_\_ to \_\_\_\_\_\_\_\_\_\_
* The median of the entire set is the \_\_\_\_\_\_\_\_\_\_ quartile. It separates the data into two halves.
* The median of the \_\_\_\_\_\_\_\_\_\_ is called the first quartile
* The median of the \_\_\_\_\_\_\_\_\_\_ is called the third quartile

**How do I calculate the INTERQUARTILE RANGE?**

The difference between the \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ quartile values is called the inner quartile range; just subtract the numbers

**How do I construct a BOX PLOT (also called box and whiskers)?**

* Order the observations from least to greatest
* Draw a number line that includes the \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_\_\_ of the data set; be sure to use uniform units on the number line!
* Plot the \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_, \_\_\_\_\_\_\_\_\_\_ (second quartile), \_\_\_\_\_\_\_\_\_\_ and \_\_\_\_\_\_\_\_

on (or above) the number line

* The “box” goes from the \_\_\_\_\_\_\_\_\_\_ through the \_\_\_\_\_\_\_\_\_\_to the\_\_\_\_\_\_\_\_\_\_; draw a vertical line demarking the median
* The “whiskers” are lines that connect the \_\_\_\_\_\_\_\_\_\_to the \_\_\_\_\_\_\_\_\_\_and the

\_\_\_\_\_\_\_\_\_\_ to the \_\_\_\_\_\_\_\_\_\_

**How do I determine if a data value is an OUTLIER?**

* An observation is a suspected outlier if it falls more than \_\_\_\_\_\_\_\_\_\_\_\_ above the \_\_\_\_\_\_\_\_\_\_\_\_ or below the \_\_\_\_\_\_\_\_\_\_\_\_

**How do I determine the STANDARD DEVIATION of a sample of data?**

* For each value, find the difference between the value and the mean of the sample
* Square each of the differences, then find their sum
* Divide the sum of the differences by the number of values, then take the square root Formula: $s=\sqrt{\frac{\sum\_{}^{}(x-\overbar{x})^{2}}{n-1}}$

Practice:

Find the following information for the given set of data:

**24 29 17 39 19 22 40 20 18 23 30 31**

1. Minimum=

2. Maximum=

3. Mean=

4. Median=

5. Mode=

6. Range=

7. Standard deviation=

8. Make a ***box plot*** plot.

9. Are there any outliers? If so, state them and justify your answer.

10. Make a ***histogram*** of the data.