

## Concept: Understanding Statistics

Name: \_\_\_\_\_

- You should have completed **Graphing – Section 2 Part A: Understanding Statistics** before beginning this handout.

### PART B: COMPUTER COMPONENT

**Instructions:** In  follow the **Content Menu** path:

**Graphing > Statistics**

NOTE: Use the **Menu** button in order to get to the lesson where you left off.

 Work through all Sub Lessons of the following Lessons in order:

- *Measures of Central Tendency*
- *Box & Whisker Plots*
- *Misleading Statistics*



As you work through **PART B: COMPUTER COMPONENT**, you will be prompted to make notes in your notebook/math journal.

### PART B: SUMMARY

*Demonstrate your superior knowledge by filling in the blanks below.*

1. A Measure of Central Tendency is \_\_\_\_\_ number, which describes an entire \_\_\_\_\_.

*When we discuss the **average** of a set of data, we could be talking about a variety of things. One type of **average** may be better suited for a particular question than another. Often times, it is up to us to decide which **average** is most appropriate for answering certain questions.*

#### Different Types of “Average”:

(a) To find the *mean*:

\_\_\_\_\_

(b) To find the *median*:

\_\_\_\_\_

(c) To find the *mode*:

\_\_\_\_\_

2. To make a Box & Whisker Plot:

Step 1: Find the second quartile.

Step 2: Find the first or \_\_\_\_\_ quartile.

Step 3: Find the third or \_\_\_\_\_ quartile.

Step 4: Plot the data on a \_\_\_\_\_ line, marking each quartile with a straight vertical line.

Step 5: Mark any outliers with a \_\_\_\_\_ line.

NOTE: Outliers are \_\_\_\_\_

Step 6: Whiskers (highest and lowest pieces of data, not including outliers) are represented by \_\_\_\_\_

Step 7: Connect the quartiles by \_\_\_\_\_  
\_\_\_\_\_

Step 8: Connect the whiskers by \_\_\_\_\_  
\_\_\_\_\_

**PART B: OFF COMPUTER EXERCISES** (*complete the following in your notebook/math journal*)

1. Jennie’s bowling scores in a 5-pin tournament are given below.

156	145	168	170	202	245	170	145
182	198	203	196	157	175	210	

Find the following types of “average”:

- (a) Mean average
- (b) Median average
- (c) Mode average

2. Bryan plays on his school’s junior basketball team. The table below shows the number of points Bryan scores in his district’s 10-game regular season.

Game	Points
1	8
2	6
3	8
4	5
5	7
6	34
7	10

8	8
9	6
10	26

Can you explain why the mean average will not be a true representation of Bryan's usual performance?

3. Sarah had scores of 80, 75, 80 and 85 on her first four exams in Algebra.

(a) Find the mean, median and mode for the exam scores.

(b) Which "average" would Sarah like her teacher to use in determining her mid-term grade?

(c) What score would Sarah have to achieve on a fifth examination in order to raise her mean score to 84? Is it reasonable to expect Sarah to achieve that score?

4. The mean of a set of numbers is 5 and the median is 6. There are 8 numbers in all.  
What might these numbers be?

5. Draw a Box & Whisker Plot to present the following driving test scores.

85	86	60	55	73	75	84	21	56	98
64	68	66	92	83	90	81	88	78	

6. Is it possible for the *mean* of a set of data to fall outside the box for its box-and-whisker plot? *Explain your response with an example.*