Algebra II Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

Looking at how data is distributed Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_Hr \_\_\_\_\_\_\_

**Investigation: Analyzing Data Spread**

1 a. Find the mean, median, and the mode of each set of data.

Mean Median Mode

\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_

\_\_\_\_ \_\_\_\_\_\_ \_\_\_\_\_\_



b. Are the sets the same? Explain.

2. Find the difference between the greatest and least values in each set of data.

 (This is called the Range)

Set 1: \_\_\_\_\_\_ Set 2: \_\_\_\_\_\_ Set 3: \_\_\_\_\_\_ Set 4: \_\_\_\_\_\_

What do these differences tell you about each set of data?

3. Find the quartiles of each set of data. (LQ, Median, UQ)

Set 1: LQ \_\_\_\_ Med: \_\_\_\_\_ UQ: \_\_\_\_\_

Set 2: LQ \_\_\_\_ Med: \_\_\_\_\_ UQ: \_\_\_\_\_

Set 3: LQ \_\_\_\_ Med: \_\_\_\_\_ UQ: \_\_\_\_\_

Set 4: LQ \_\_\_\_ Med: \_\_\_\_\_ UQ: \_\_\_\_\_

4. For each set, half of the data lie between Q1 and Q3. The value Q3 – Q1 gives you an idea of how the data are spread out. Find Q3 – Q1 for each set of data. This is called the Inner Quartile Range (IQR).

Set 1:\_\_\_\_\_\_\_ Set 2: \_\_\_\_\_\_\_\_ Set 3: \_\_\_\_\_\_\_ Set 4: \_\_\_\_\_\_\_

5. Give an example of two sets of data that are spread out differently, though the differences between their extreme values are the same.

Give an example of two sets of data that are spread out differently, though their values of Q3 – Q1 are the same.

6. Summarize the similarities and differences among the four sets in terms of central tendency and spread. Which is the most spread-out set? Which is the least? Explain.

Make a box-and-whisker plot of each of the four sets of data. Do the plots support your conclusions from above?

