Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_\_\_\_\_

Intro to Statistics – Ms. Klimczuk

Chapter 3 Review for Test – Displaying and Summarizing Quantitative Data

1. Students in a college statistics class responded to a survey designed by their teacher. One of the survey questions was “How much sleep did you get last night?” Here is the data (in hours).

9 6 8 6 8 8 6 6.5 6 7 9 4 3 4

5 6 11 6 3 6 6 10 7 8 4.5 9 7 7

1. Make a dotplot of the data. Label your axis. Make sure to give a title.
2. Describe the shape of the distribution: Is it unimodal, bimodal, or multimodal? Skewed or symmetric?
3. What would you use to describe the center? The median or the mean? Why?
4. What would you use to describe the spread? The IQR or the standard deviation? Why?
5. Using your graphing calculator, write down the following:

The mean: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Standard Deviation: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Variance: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

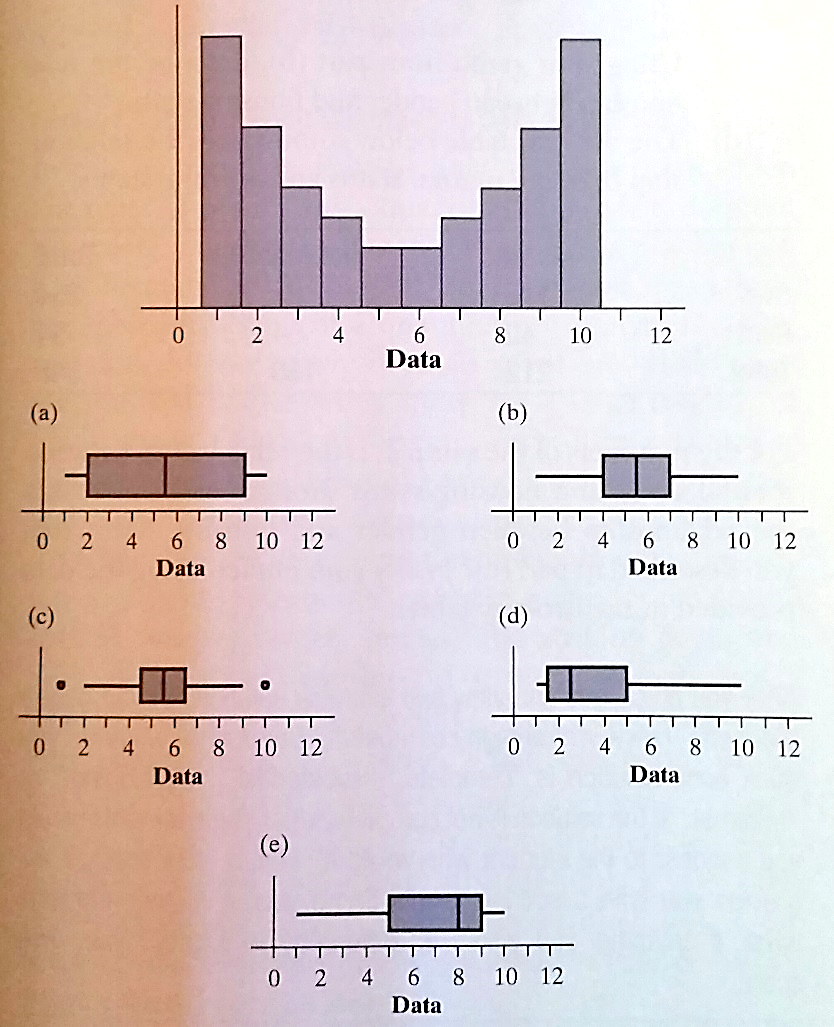
The Median: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1st Quartile: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

3rd Quartile: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

The Interquartile Range: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

1. Are there any outliers? Justify your answer.
2. Make a boxplot of the data. Label your axis. Make sure to give your graph a title.
3. Which of the following boxplots best matches the distribution shown in the histogram?



1. The figure below is a cumulative relative frequency graph (ogive) of the amount spent by 50 consecutive grocery shoppers at a store.



1. Estimate the IQR of this distribution. Show your work.
2. What is the percentile for the shopper who spent $19.50?
3. Draw a histogram that corresponds to this graph. Label your axis.
4. Use the 2 sets to answer the following questions.

Set 1: 3, 5, 6, 7, 9

Set 2: 2, 4, 6, 8, 10

1. Without doing any calculations, decide which set would have the bigger standard deviation. Explain why.
2. Find the standard deviations of both sets by hand. Show all of your work (use the standard deviation formula for a sample).