Statistical Reasoning   Name: _____
Unit 2 Review

1. Circle the following data display(s) that are frequency distributions. (Hint: Frequency distributions show how many times something occurs.)

     Dot Plot   Bar Graph   Stemplot   Histogram   Pie Chart   Boxplot

2. You have data of SAT scores for 2000 high school seniors. What display should you use to look at these scores? Explain.

3. Which displays can represent categorical data?

4. What is the main difference between the data a bar graph and pie chart can display?

5. The number of points scored on the last quiz are shown below.

     1st Block: 83 50 79 79 83 58 71 42 94 81 75 69 73 83 100

a. Display this data in a stemplot.

b Create a pie chart with the following data. Use a protractor to measure the degrees of each sector. **Include all percentages, degrees, and labels. (6 points)**
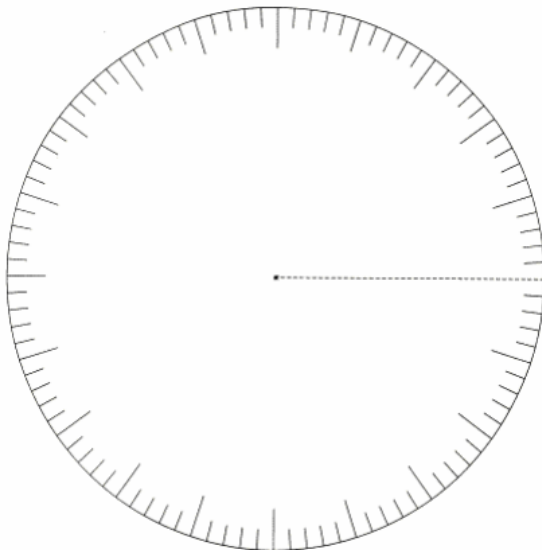
Favorite Color	# of People	Percentage	Degree
Yellow	5		
Blue	7		
Red	3		
Purple	6		
Green	9		
Total	**30**	**100**	**360**

6. List the measures of center.

7. List the measures of spread.

8. Describe data with the following shape:
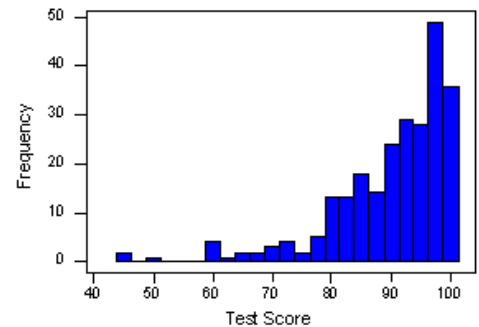
   a. Skewed right

   b. Skewed left

   c. Symmetric

9a. How would you describe the overall shape of this distribution?

b. Where will the mean fall in respect to the median?

c. What numerical measures would best describe it? Why?

   Mean/Standard deviation   OR   Median/IQR

10. How do you prove that a number is an outlier? List both formulas.

11. The number of points scored on the last quiz are shown below.

1st Block: 83 50 79 79 83 58 71 42 94 81 75 69 73 83 100

2nd Block: 100 88 33 67 100 25 75 38 96 67 83 83 79 88 71 79

a. Find the mean of each data set.

b. Find the standard deviation of each data set.

c. Find the five number summary.

d. Find the range and IQR.

f. If we added 5 points to every score, what would this do to the mean and standard deviation? Calculate the new mean and standard deviation.

g. Discuss whether 1st or 2nd block had the higher average. Explain with vocabulary and calculations.

h. Discuss whether 1st or 2nd block had a more consistent quiz grade. Explain with vocabulary and calculations.

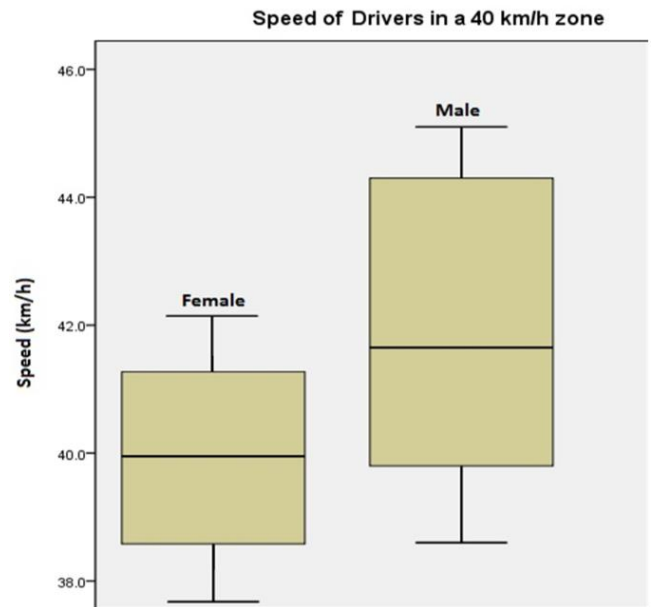i. Prove any outliers in each class with the formulas.

j. Make a boxplot of the data below.
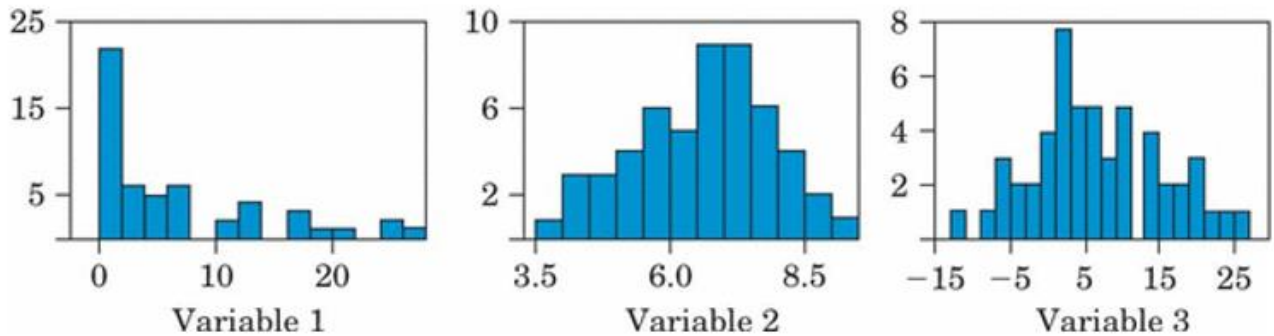
12. Look at the box plots to the right:

a. Describe the spread of the female drivers.

b. Describe the spread of male drivers.

c. Which one shows more variability? How do you know?

Speed of Drivers in a 40 km/h zone

13.

Variable 1   Variable 2   Variable 3

(a) mean = 6.6, median 6.8, standard deviation = 1.3, variable = _____.

(b) mean = 6.6, median = 6.0, standard deviation = 8.65, variable = _____.

(c) mean = 6.6, median 3.75, standard deviation = 7.4, variable = _____.

14.

a. What percentage of the data is below 7?

b. What percentage of the data is below 13?

c. The middle 50% of data is between _____ and _____.