Class Time:

Names:

Descriptive Statistics: Descriptive Statistics Lab I

Student Learning Outcome:

- The student will construct a histogram and a box plot.
- The student will calculate univariate statistics.
- The student will examine the graphs to interpret what the data implies.

Collect the Data

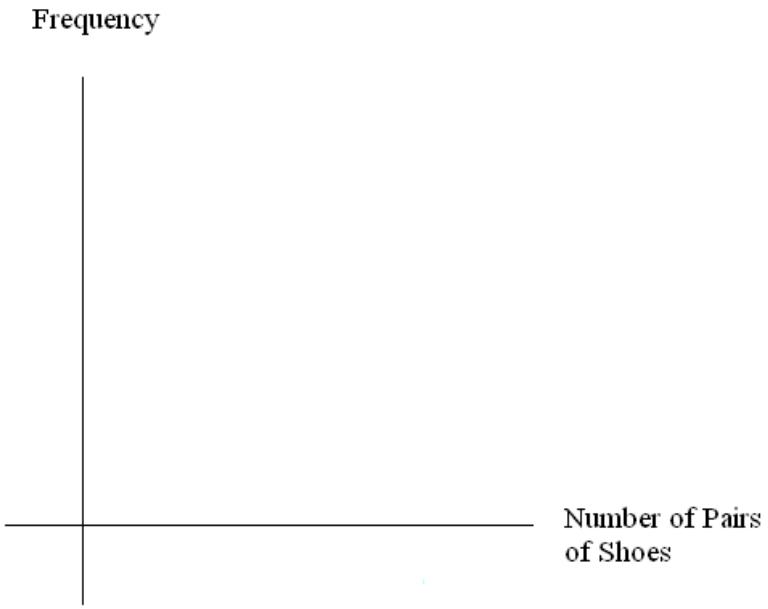
Record the number of pairs of shoes you own:

1. Randomly survey 30 classmates. Record their values.

Survey Results

____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____
____	____	____	____	____

2. Construct a histogram. Make 5-6 intervals. Sketch the graph using a ruler and pencil. Scale the axes.



3. Calculate the following:
    a. $\overline{x}$ =
    b. s =
4. Are the data discrete or continuous? How do you know?

5. Describe the shape of the histogram. Use complete sentences.

6. Are there any potential outliers? Which value(s) is (are) it (they)? Use a formula to check the end values to determine if they are potential outliers.

Analyze the Data

1. Determine the following:
    a. Minimum value =
    b. Median =
    c. Maximum value =
    d. First quartile =
    e. Third quartile =
    f. IQR =
2. Construct a box plot of data.

3. What does the shape of the box plot imply about the concentration of data? Use complete sentences.

4. Using the box plot, how can you determine if there are potential outliers?

5. How does the standard deviation help you to determine concentration of the data and whether or not there are potential outliers?

6. What does the IQR represent in this problem?

7. Show your work to find the value that is 1.5 standard deviations:
    a. Above the mean:
    b. Below the mean: