

Calculator Homework #1 – Graphical Displays of Data and Descriptive Statistics

To draw a boxplot:

<http://glcyyz01vp.clcillinois.edu/web/users/ncasper/boxplot.html>

To make a histogram:

<http://glcyyz01vp.clcillinois.edu/web/users/ncasper/MakingHistogram.htm>

Exercise 1

Use the calculator to construct a boxplot for the data: 33, 38, 43, 30, 29, 40, 51, 27, 42, 23, 31

Draw the boxplot below.

Exercise 2

The data shown here represent the number of miles per gallon that 30 selected four-wheel drive sports utility vehicles obtained in city driving. Use the calculator to construct a histogram for the data. Use 8 classes.

12	17	12	14	16	18
16	18	12	16	17	15
15	16	12	15	16	16
12	14	15	12	15	15
19	13	16	18	16	14

Draw the histogram here.

To calculate various descriptive statistics:

1. Press **STAT** to get the menu
2. Press **1** for **EDIT** then enter the data into L1 pressing **ENTER** after each value
3. Press **>** to move cursor to **CALC**, then press **1** for **1-Var Stats**
4. Press **2nd** [L1] then **ENTER**

To obtain the variance:

1. Run the **1-Var Stats** to get the standard deviation
2. Press **VARS** to get to the menu
3. Press **5** for **Statistics**
4. Press **3** to get the sample standard deviation or **4** to get the population standard deviation
5. Press the square function [**x²**] to square the standard deviation to obtain the variance

To calculate descriptive statistics for grouped data:

1. Press **STAT** to get the menu
2. Press **1** for **EDIT** then enter the midpoints of each class into L1 and the frequencies into L2. Press **ENTER** after each value
3. Press **>** to move cursor to **CALC**, then press **1** for **1-Var Stats**
4. Press **2nd** [L1] [,] **2nd** [L2] then **ENTER**

Exercise 3

The exam scores of 18 English composition students were recorded as follows:

78, 62, 98, 90, 88, 73, 79, 86, 81, 84, 93, 97, 63, 59, 78, 82, 87, 93

Use the calculator to find each of the following (assume the data represents a sample):

- a. Mean
- b. Standard Deviation
- c. Variance
- d. 5-number summary

Exercise 4

Use the calculator to find the **mean**, **standard deviation**, and **median** for the frequency distribution below.

Class	Frequency	Midpoint
5.5-10.5	1	
10.5-15.5	2	
15.5-20.5	3	
20.5-25.5	5	
25.5-30.5	4	
30.5-35.5	3	
35.5-40.5	2	