Using a Calculator for Statistical Analysis

Comments on these notes: A key is indicated by **[KeyName]**. When a 2nd function is involved, the name of that function is given after the key-stroke sequence. To "press" a key means to press and release. To "highlight" something on the screen of the TI-83 means to use the arrow keys to place a dark box (which may be flashing) over it. To "select" something means to highlight it and press **[ENTER]**. You can also select menu options by entering the number of the option. Note that some functions take effect when you select them, while others appear on the home screen requiring that you press **[ENTER]** again (often after entering options for that function) before it takes effect. I use **[v]** for the down arrow key.

TI-30X IIS: Find the Mean and Standard Deviation of a data set

1) Press **[2nd] [DATA]** to select **STAT**, then **[ENTER]** to select **1-VAR**iable statistics.

2) Press **[DATA]** to begin entering the data set.

3) For each data point, enter the value, then hit **[v] [v]**. (The FRQ variable can be used to indicate that a particular value occurs more than once, but I don't recommend using it for our data sets.) You can also use the arrow keys to check or edit the values in your data set.

4) When the all data are entered, hit **[STATVAR]**. This will compute all of the statistics for the data set and display a menu. The first value is n, which you should check to be sure you entered the right number of points. Use **[>]** to move across the menu to the mean ($\bar{x}$) and standard deviation (*Sx*).

5) When done, hit **[2nd] [STATVAR]** to select **EXITSTAT** and **[ENTER]** to confirm. This will return you to the normal calculator mode and also clear the data set.

Note: The Sharp EL-531 I also use works in a similar fashion to the TI-30X IIS. Read the manual.

TI-83: Find the Mean and Standard Deviation of data in a List

1) Press **[STAT]** and select **1: Edit...**. If the list you want to use has data in it, highlight the name at the top of the list, press **[CLEAR]**, then **[ENTER]**. You can also use the **5: SetUpEditor** command to remove all user-defined lists and clear the standard 6 lists I assume you are using.

2) Highlight the blank line in the list you wish to use. Type in the data value and press [ENTER]. Continue until all data are entered in the list. Each data set goes in its own list.

You can create a list containing values calculated from data in another list as follows: Use the cursor arrows to highlight the name (not the first blank line) of an unused list. Type in the formula you wish to use and press **[ENTER]**. For example, to calculate the natural logarithm of the data in **L3** and store the result in **L4**, highlight **L4** and press **[LN]**, then **[2nd] 3**. The formula should read L4=ln(L3).

3) Press **[STAT]**, then highlight **CALC** and select **1: 1-Var Stat**, which places this command on the home screen. Now type in the list containing the data to be analyzed, *e.g.* **[2nd] 2** to select **L2**, then press **[ENTER]**. (Default is **L1** if you don't give a list name.) The mean is displayed as $\bar{x}$, while Sx gives the value of σ_{N-1} we use for data analysis (the sample standard deviation).