Intermediate Algebra—MT123

Fall 2004—LaVoice

Finding the Mean, Mode, and Median for a Data Set

You can use the graphing calculator to find the *mean* (average), *median* (middle value), and *mode* (most frequently occurring value) for a *data set*, or list of numbers. (Note that it is possible for a data set to have no mode).

ENTER THE VALUES FOR THE DATA SET

1. Access the **List Editor** by pressing **[STAT]**, then choose **1: Edit.**

    Each column is labeled **L$_n$**, where *n* is a number from 1 to 6. This means you can store up to six data sets in the calculator. You can choose to enter the values in any column, but make a note of the column label (called the *list name*) so that you will be able to correctly identify the data set later on.

2. If necessary, clear list values by using the **ClrList** or **ClrAllLists** function. You need to clear a list if there are no empty lists and the one you want to use already contains more values than there are in the data set you want to analyze. If you do not clear the list before entering the new values, some old values will remain and will give erroneous results.

    The list-clearing functions are available in the function catalog, which you access by pressing **[2nd] [0]**. To jump to the first function that begins with a given letter, press the key that has the letter (in green) above it. For example, to jump to the functions that start with C, press **[PRGM]**. Scroll down until the function you want is selected, and then press **[ENTER]**. To perform that function, press **[ENTER]** again. The calculator reports **Done** when the list(s) have been cleared.

3. Return to the **List Editor**. Type the first value and press **[ENTER]**. The calculator automatically moves down to the next entry in the list. When you are finished entering values, press **[2nd] [MODE]** to quit the **List Editor**.

    > *NOTE:* *If you do not quit the **List Editor**, the mean or median of the current list values will be inserted in the list as if it were one of the values in the data set.*

COMPUTE THE MEAN OR MEDIAN FOR THE DATA SET

1. Press **[2nd] [STAT]** to access the **List Editor** functions.

2. Press the right arrow key twice to access the **MATH** menu.

3. To compute the mean, choose **3: mean**. To compute the median, choose **4: median**. The calculator will display the function name followed by an open parenthesis, waiting for you to specify the number (or name) of the list that contains the data set.

    mean(

4. Specify the list name. For example, to specify **L1,** press **[2nd] [1]**.[1]

    mean(L1

5. Press **[ENTER]**. (You do not have to provide the closing parenthesis because, in this case, you are not using this value in a computation.)

DETERMINE WHETHER THE DATA SET HAS A MODE

1. Sort the data in ascending (or descending) order The sorting functions are available on the **[STAT]** menu (**2: SortA** and **3: SortD**, respectively).

2. Specify the name of the list containing the data set that you want to sort. For example, press **[2nd] [1]** to specify **L1**.

3. Press **[ENTER]**. The calculator will report **Done** after the sorting is complete.

4. Return to the **List Editor**.

5. Count the number of times each value appears. The value that appears most frequently (if there is one) is the mode.

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[1]   You can also specify the list name by pressing **[2nd] [STAT]** and choosing the list name from the **NAMES** menu, but this method is usually less convenient than using the keypad.