
MathBootCamps Calculator Guide

Statistical plots on the TI83 and TI84

*****PREVIEW ONLY*****

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Introduction

The TI83 and TI84 calculators are powerful tools. In this guide, you will learn how to use these to create some of the different plots and graphs that are commonly seen in statistics.

It is important to note that this guide doesn't go too much into the details of when to use a particular plot. Instead, for simplicity, it is just focused on the "how-to" of using the calculator to get the plot and any related values.

Similarly, there may be other ways to get a plot to show up on your calculator (for example, you don't ALWAYS have to use L1 as we do here), but instead of talking about all the different methods, this just focuses on the most simple and straightforward way to get it done and get you analyzing the resulting plot!

Notation

Any button on the calculator is labeled as [button]. So, for example, if you need to press the button for the number 1, this will be written as: press [1]. If you need to press the enter button, this will be written as: press [ENTER].

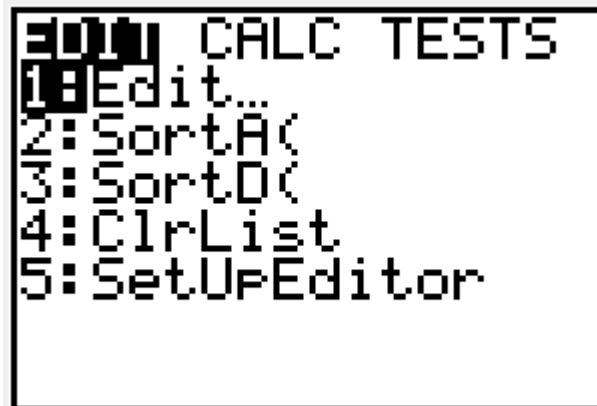
Entering data into the calculator

For each of the plots in this guide, you will need to enter data into the calculator. Using the small data set below, the steps are as follows. (Note: if there are already numbers in your list, see page 4: Clearing data from a list.)

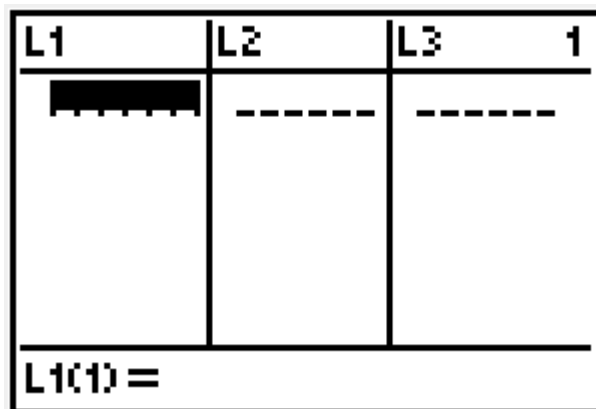
Total purchase amount for a sample of 10 customers:

\$12.15	\$18.11	\$36.08	\$8.94	\$5.16
\$14.97	\$28.25	\$47.12	\$45.87	\$4.12

| Step 1: Press [STAT]



| Step 2: Select "1. Edit" by pressing [1] or pressing [ENTER]



Step 3: Type the numbers in, pressing [ENTER] after each number

L1	L2	L3	1
36.08			
47.12			
8.94			
45.87			
5.16			
4.12			
L1(11) =			

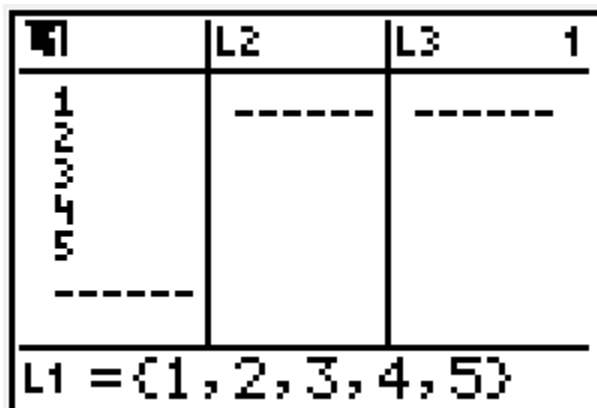
Even though this data is shown in a table with several rows and columns, you will enter it all into L1, since it represents measurements for a single variable (amount spent).

Note: When entering data for one variable, the order you enter the data does not matter.

Clearing data from a list

One of the most common issues when working with statistics on the TI83 or TI84 calculators is accidentally deleting your L1 list. To avoid this, follow these steps when you need to clear the list.

Step 1: Highlight the very top of the list



The image shows a TI-83/84 calculator screen with a list editor. The screen is divided into three columns: L1, L2, and L3. The L1 column contains the numbers 1, 2, 3, 4, and 5, each on a separate line. The L2 and L3 columns are empty, with dashed lines indicating they are blank. Below the list editor, the text 'L1 = {1, 2, 3, 4, 5}' is displayed.

L1	L2	L3	1
1	-----	-----	
2			
3			
4			
5			

L1 = {1, 2, 3, 4, 5}			

Step 2: Press [CLEAR] and then [ENTER]

Don't use the [DEL] key here. Instead, use the [CLEAR] key located just below the arrows. After this, your list will once again be blank.

If you accidentally delete a list like L1, please see page 21: "No L1" for how to fix it.

Scatterplots

A scatterplot is used to visualize the relationship between two variables. These variables are referred to as:

- The predictor, x (the independent variable)
- The response, y (the dependent variable)

The ultimate question a scatterplot tries to answer is “how does a change in the predictor affect the response?” or “how does the response *respond* to changes in the predictor?”

On the calculator

We will use a scatterplot to understand the relationship between the distance flown (in miles) and the duration (in minutes) of a sample of flights. Here, we will use the distance flown to predict the duration. So, x is distance flown and y is the duration.

Distance flown (miles), x	414	122	847	756	574	1732	317	866
Duration (minutes), y	69	25	112	103	74	197	51	120

| Step 1: Enter the data into the calculator

Press [STAT] and select “1. Edit” (for more details, see page 2 Entering data into the calculator). Enter the x -values in L1 and the y -values in L2. The order matters with a scatterplot since each pair of values (like 414 and 69) go together.







L1	L2	L3	2
847	112		
756	103		
574	74		
1732	197		
317	51		
866	120		
-----	-----		
L2(9) =			

Step 2: Set up the scatterplot in STATPLOT

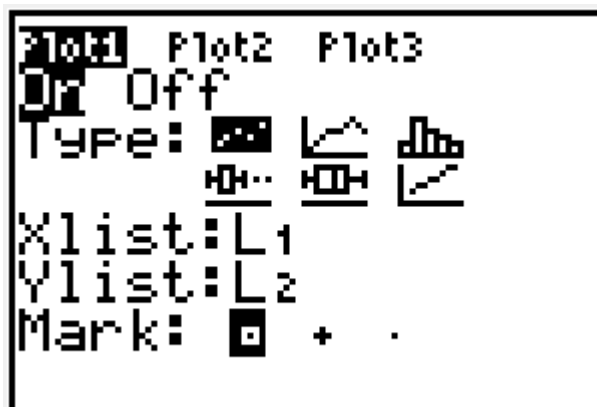
To enter the STATPLOT menu, press [2ND] and [Y=].

STATPLOT			
1:	Plot1...	Off	
	↵	L1	L2
			□
2:	Plot2...	Off	
	↵	L1	L2
			□
3:	Plot3...	Off	
	↵	L1	L2
			□
4↓	PlotsOff		

Select the Plot1 by pressing [1] or [ENTER].

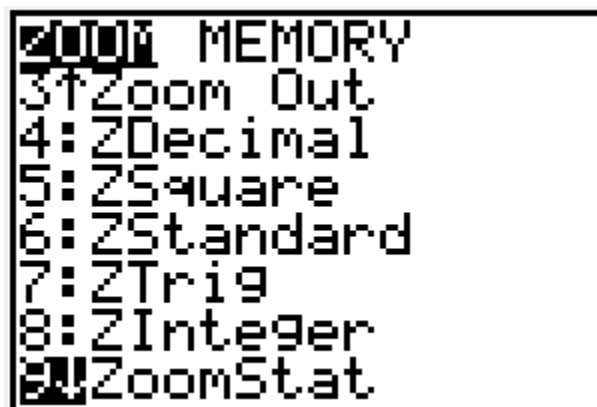
Plot1	Plot2	Plot3
On	Off	
Type:	  	
Xlist:	L1	
Ylist:	L2	
Mark:	  	

Highlight ON and press [ENTER], and then highlight the first plot next to “Type:” and press [ENTER]. Your screen should then look like this:



| Step 3: View the scatterplot using ZoomStat

Press [ZOOM] and select “9:ZoomStat”. You can do this by scrolling down to 9 after pressing [ZOOM] and pressing [ENTER] or just by pressing the 9 button, [9].



You should now see your scatterplot.



You can see that there is a strong positive linear relationship between the distance flown and the duration of a flight. As you probably expected, the further you fly, the longer it takes!

*****END PREVIEW*****