The Graphing Options

To Graph an Equation

Note: Let $f(x) = x^3 + 3x^2 - 6x + 18$. Make sure you can see the relative minimum and relative maximum.

(1) Press Y=
(2) Enter in the function (in this case, type $x^3 + 3x^2 - 6x + 18$ next to $Y_1 =$)
(3) Press ZOOM
(4) Arrow down to the most appropriate option
(5) Press ENTER

The Most Frequently used Zoom Options:

#6: Zoom Standard ~ used to create the standard 10 by 10 screen
#9: Zoom Stat ~ used to create a window that shows all of the data points in your lists

To Adjust your Window:

(1) Press Window
(2) Fill in the appropriate values where:
    X-Min ~ represents the far left value of your screen
    X-Max ~ represents the far right value of your screen
    X-Scale ~ represents the interval that your X-axis scale increases by
    Y-Min ~ represents the far bottom value of your screen
    Y-Max ~ represents the far top value of your screen
    Y-Scale ~ represents the interval that your Y-axis scale increases by

The following is a step-by-step explanation of the steps to obtaining the best window for the given example:

To graph in a standard 10 by 10 window, press ZOOM > #6:ZStandard.

We cannot see the relative maximum or the relative minimum, so lets try a different window.

We can modify the window by hand to try to create a better view of the graph.

We know a cubic has two turning points, but our current window only shows one "leg" of the graph. We can modify our window by increasing the Ymax value until we can see the turning points. Press WINDOW. Ymax is currently 10. Lets increase it to 50. Arrow down to Ymax, delete 10 and type in 50. Press GRAPH.

This shows all the important parts of the graph, but the relative maximum and relative minimum are difficult to distinguish. We can modify the window by hand to try to create a better view of the graph.

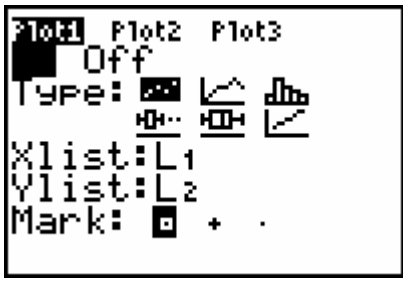
Now we can see both the relative minimum and the relative maximum in our window, as well as the x- and y-intercepts.

To Graph a Scatter Plot:
Note: Graph the data using the following scatter plot.

X	**0**	**2**	**4**	**6**	**8**
Y	**3**	**6**	**9**	**12**	**15**

To turn on Stat Plots:

(1) Press 2nd
(2) Press Y=
(3) Press ENTER
(4) Place cursor over ON
(5) Press ENTER

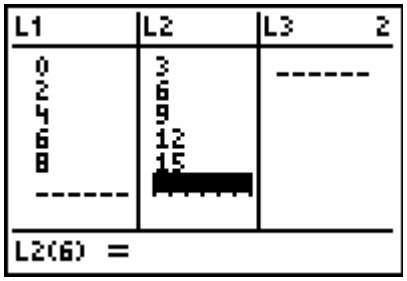


Note: If the remainder of the settings aren't highlighted as the ones shown in the screen to the right, then highlight them and press ENTER. Those settings should not have to be set again unless you want to plot something other than a statplot.

To put data into lists:

Clear all your lists by:

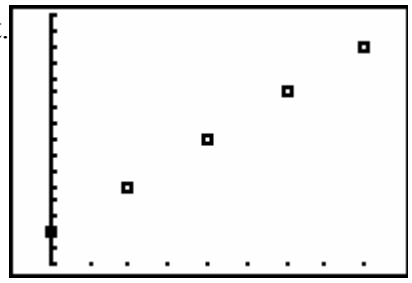
(1) Press 2nd
(2) Press +
(3) Arrow down to the #4 option: ClrAllLists
(4) Press ENTER twice



Enter data by:

(1) Press STAT
(2) Press ENTER
(3) Arrow down to the blank space under L1
(4) Enter x-values into L1
(5) Arrow over to the blank space under L2
(6) Enter y-values into L2

Note: Check the data you entered. Make sure the values are correct. Make sure the lists have the same number of entries. Correct any mistakes using the arrow keys and the CLEAR button.



To view the scatter plot:

(1) Press ZOOM
(2) Arrow down to option #9:ZoomStat
(3) Press ENTER

Note: Your scatter plot is now graphed in the window. All data points should be visible.