

Graphing a Piecewise-Defined Function on a TI-89

(There are a couple ways to do this but this is the way I found to be the easiest.)

To graph a piecewise-defined function, each piece of the function along with the x-interval for which the piece is defined must be entered into the y= screen.

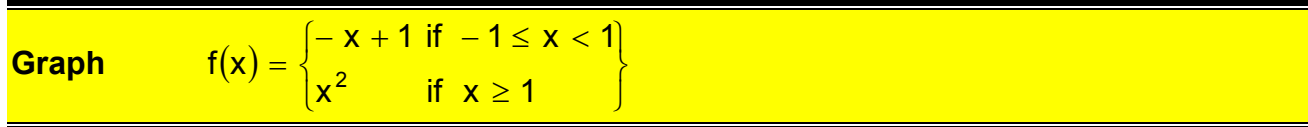
The | key allows you to put restrictions on the value of x.

The < and > keys are on the keyboard **and** can be found in the Math menu:

2nd Math

8: Test

The ≤ sign can be made by using <= and ≥ can be made using >=.

A yellow rectangular box representing a TI-89 calculator screen. On the left, the word "Graph" is displayed. To its right, a piecewise function is defined using a large curly brace. The function is: f(x) = { -x + 1 if -1 ≤ x < 1; x^2 if x ≥ 1 }.
$$\text{Graph} \quad f(x) = \left\{ \begin{array}{ll} -x + 1 & \text{if } -1 \leq x < 1 \\ x^2 & \text{if } x \geq 1 \end{array} \right\}$$

Diamond Y=

(Clear functions)

$$y1 = -x + 1 \mid -1 \leq x \text{ and } x < 1$$

$$y2 = x^2 \mid x \geq 1$$

Graph in a Standard Viewing window.

Zoom In to see the functions more clearly.