Graphing a Piecewise-Defined Function on a TI-85

(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(x)= screen.

The < and > keys can be found in the **2nd Test** menu:

Graph $f(x) = \begin{cases} -x+1 & \text{if } -1 \le x < 1 \\ x^2 & \text{if } x \ge 1 \end{cases}$

Graph
F1: Y=
(Clear functions)

$y1 = (-x+1)(-1 \le x)(x < 1)$
$y2 = (x^2)(x \ge 1)$

Note that parentheses must be placed around each inequality statement and each piece of the function if there is more than one term.

Change your graphing mode to dot rather than connected to better see the graph

Graph
More
F3 Format
Highlight **DrawDot**
Enter

Then **graph** in a standard viewing window.

F3: Zoom
F4: ZStd

Zoom in to see the two functions more clearly.