

[4.6] Graphing piece-wise defined functions with "|" operator

This method uses the Y= Editor to define several functions, each of which defines the function over a given range:

$y_1 = f_1(x) \mid \text{range1}$
 $y_2 = f_2(x) \mid \text{range2}$
 $y_3 = f_3(x) \mid \text{range3}$
etc...

f_1 , f_2 and f_3 are the functions for each range. range1, range2 and range 3 are the conditional expressions that define the x-range for each function. '|' is the "where" operator. For example:

$y_1 = x \mid x < 3$
 $y_2 = -(x+3) \mid x \geq 3 \text{ and } x < 5$
 $y_3 = 1/2 * x \mid x \geq 5$

Note that this method does not define a single, piece-wise continuous function. Instead, it defines several functions that, when plotted simultaneously, give the appearance of a single function.

(Credit to Fabrizio)