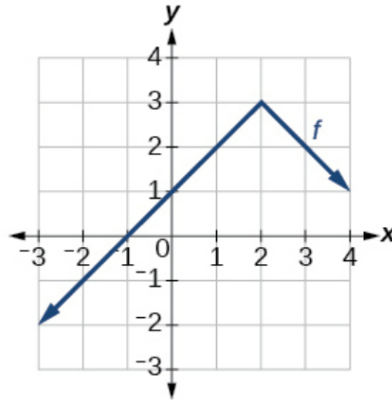


Exercise 46

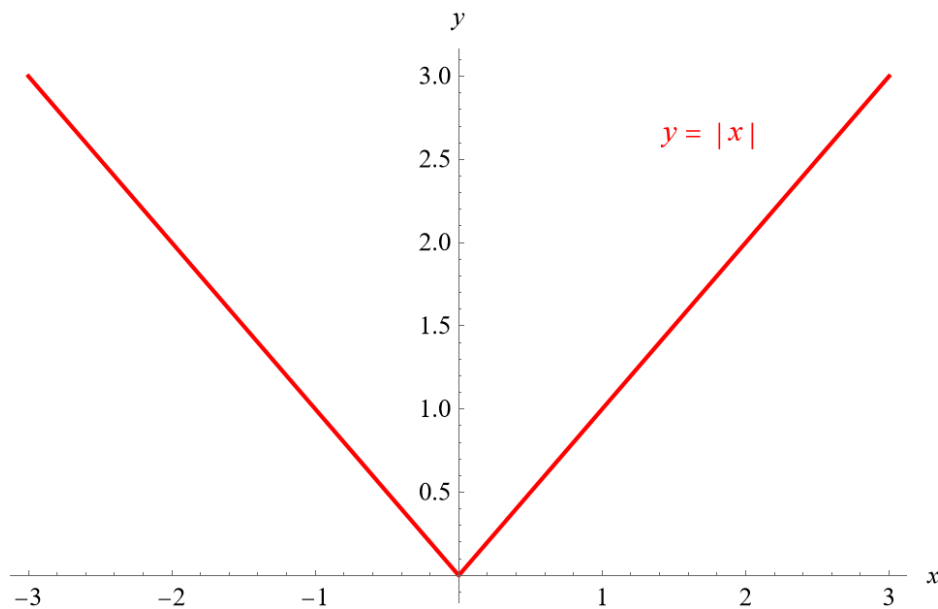
For the following exercises, use the graphs of the transformed toolkit functions to write a formula for each of the resulting functions.



Solution

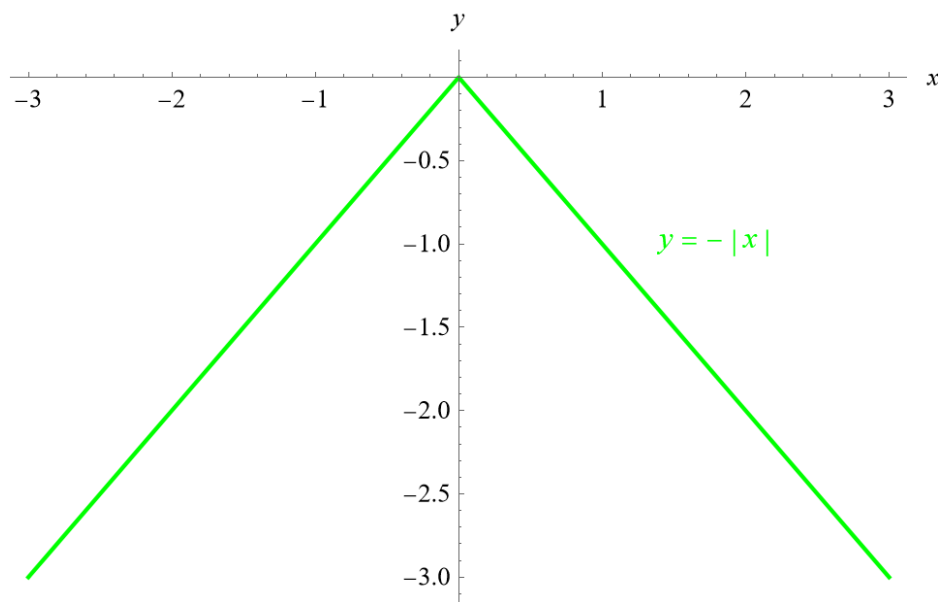
This is an absolute value function that's been reflected over the x -axis, shifted to the right by 2 units, and shifted up by 3 units. Start with the standard absolute value function.

$$y = |x|$$



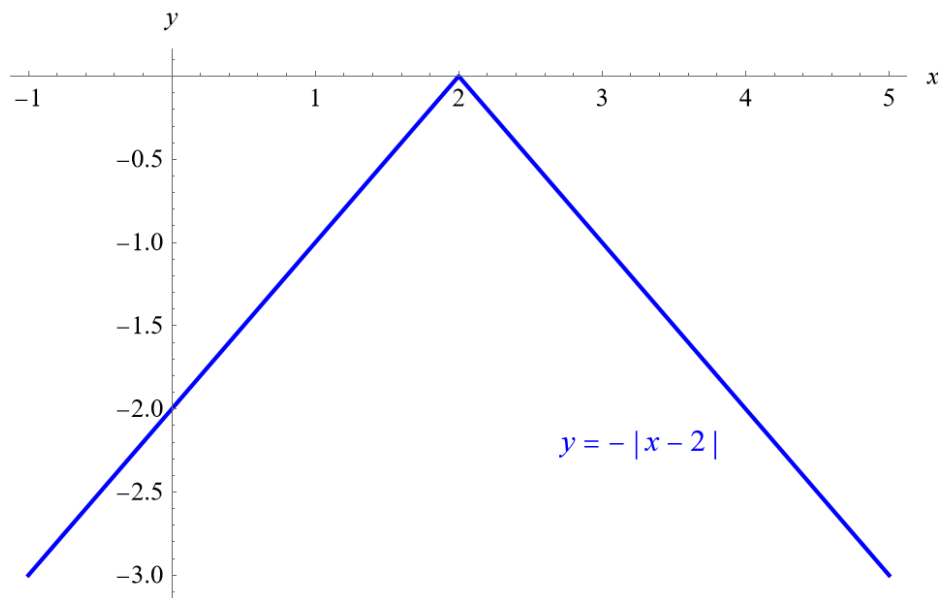
Reflect it over the x -axis.

$$y = -|x|$$



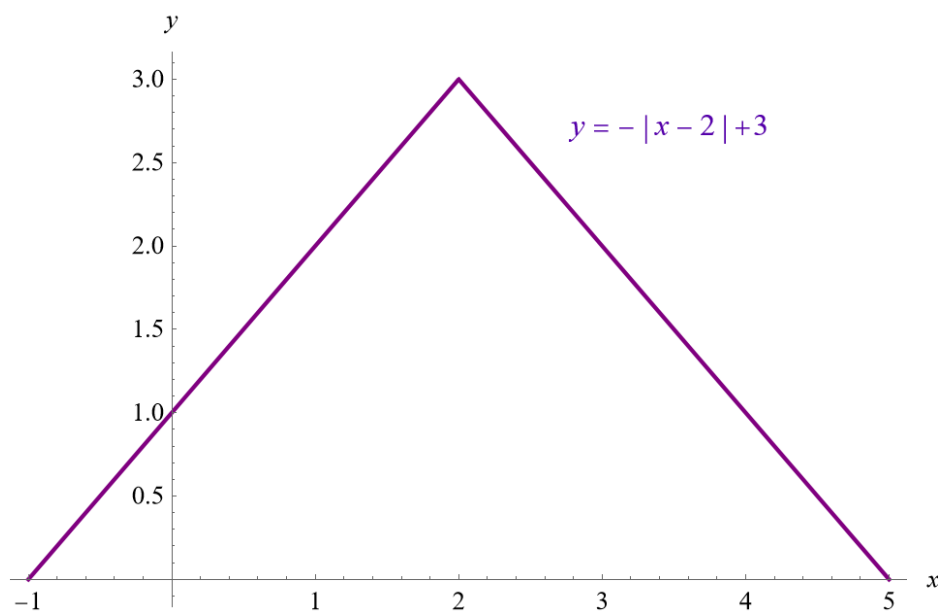
Shift it to the right by 2 units.

$$y = -|x - 2|$$



Shift it up by 3 units.

$$y = -|x - 2| + 3$$



$$f(x) = -|x - 2| + 3$$