Exercise 12

In Exercises 7–16, sketch the graph of the equation by point plotting.

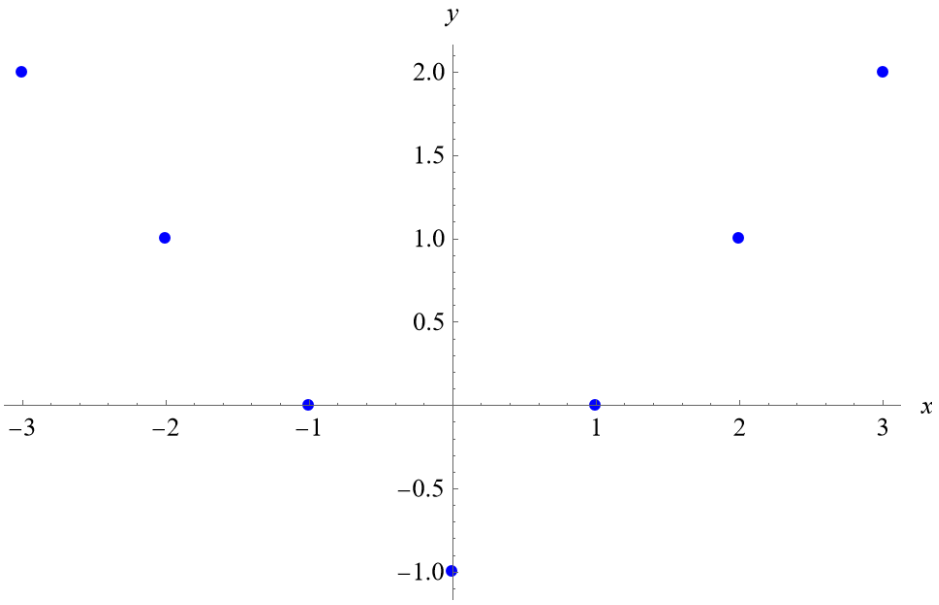
$$y = |x| - 1$$

Solution

Evaluate y for several integer values of x.

$$\begin{aligned}
x = -3: &\quad y = |-3| - 1 = 2 \\
x = -2: &\quad y = |-2| - 1 = 1 \\
x = -1: &\quad y = |-1| - 1 = 0 \\
x = 0: &\quad y = |0| - 1 = -1 \\
x = 1: &\quad y = |1| - 1 = 0 \\
x = 2: &\quad y = |2| - 1 = 1 \\
x = 3: &\quad y = |3| - 1 = 2
\end{aligned}$$

The points to plot are $(-3, 2)$, $(-2, 1)$, $(-1, 0)$, $(0, -1)$, $(1, 0)$, $(2, 1)$, and $(3, 2)$.



Connect the dots to get the graph of $y = |x| - 1$.