Exercise 15

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

$$y = \frac{3}{x}$$

Solution

Evaluate y for several integer values of x.

$$x = -3: \quad y = \frac{3}{-3} = -1$$

$$x = -2: \quad y = \frac{3}{-2} = -\frac{3}{2}$$

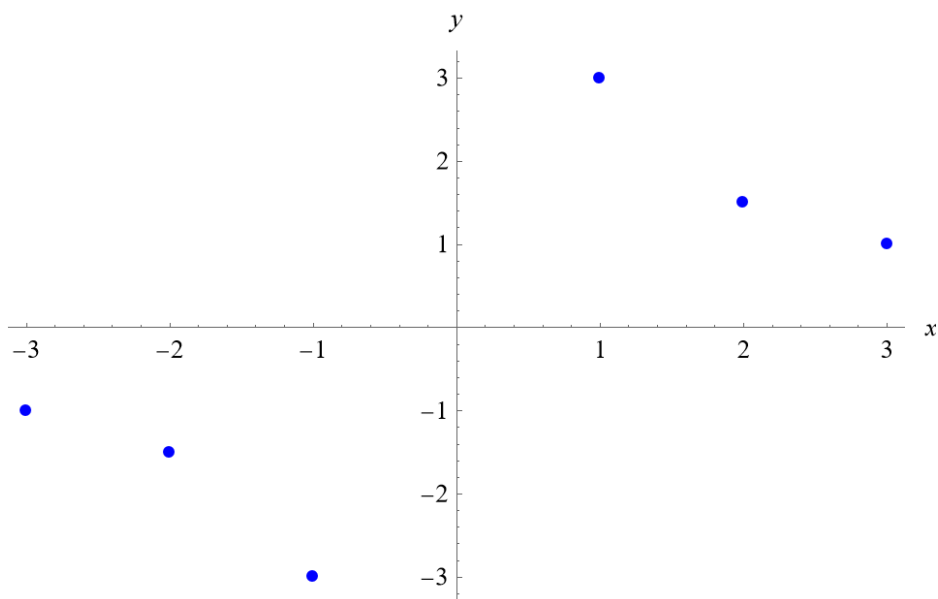$$x = -1: \quad y = \frac{3}{-1} = -3$$

$$x = 0: \quad y = \frac{3}{0} = \text{undefined}$$

$$x = 1: \quad y = \frac{3}{1} = 3$$

$$x = 2: \quad y = \frac{3}{2} = \frac{3}{2}$$

$$x = 3: \quad y = \frac{3}{3} = 1$$

The points to plot are $(-3, -1)$, $\left(-2, -\frac{3}{2}\right)$, $(-1, -3)$, $(1, 3)$, $\left(2, \frac{3}{2}\right)$, and $(3, 1)$.

Connect the dots to get the graph of $y = 3/x$.