Exercise 16

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

$$y = \frac{1}{x+2}$$

Solution

Evaluate y for several integer values of x.

$$x = -6: \quad y = \frac{1}{-6+2} = -0.25$$

$$x = -4: \quad y = \frac{1}{-4+2} = -0.5$$

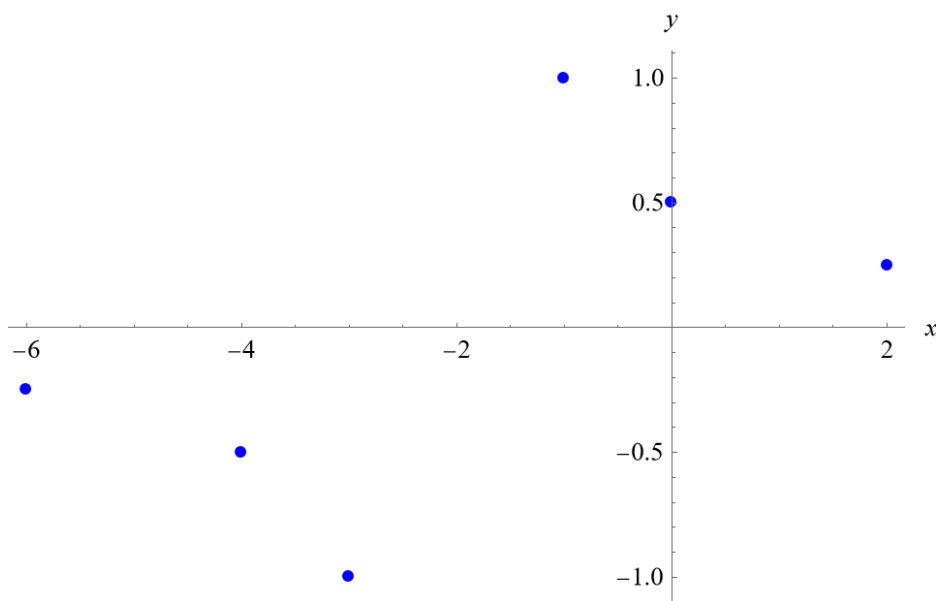$$x = -3: \quad y = \frac{1}{-3+2} = -1$$

$$x = -2: \quad y = \frac{1}{-2+2} = \text{undefined}$$

$$x = -1: \quad y = \frac{1}{-1+2} = 1$$

$$x = 0: \quad y = \frac{1}{0+2} = 0.5$$

$$x = 2: \quad y = \frac{1}{2+2} = 0.25$$

The points to plot are $(-6, -0.25)$, $(-4, -0.5)$, $(-3, -1)$, $(-1, 1)$, $(0, 0.5)$, and $(2, 0.25)$.

Connect the dots to get the graph of $y = 1/(x + 2)$.