

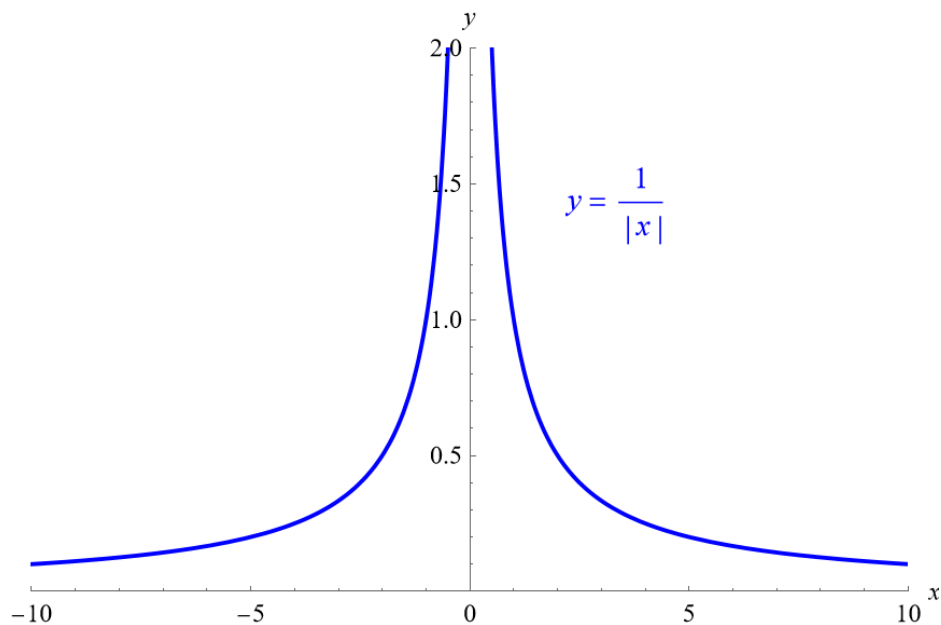
**Exercise 40**

Graph the functions in Exercises 37–46. What symmetries, if any, do the graphs have? Specify the intervals over which the function is increasing and the intervals where it is decreasing.

$$y = \frac{1}{|x|}$$

**Solution**

The function is graphed below versus  $x$ .



It is symmetric with respect to the  $y$ -axis. The function is decreasing on  $(0, \infty)$  and increasing on  $(-\infty, 0)$ .