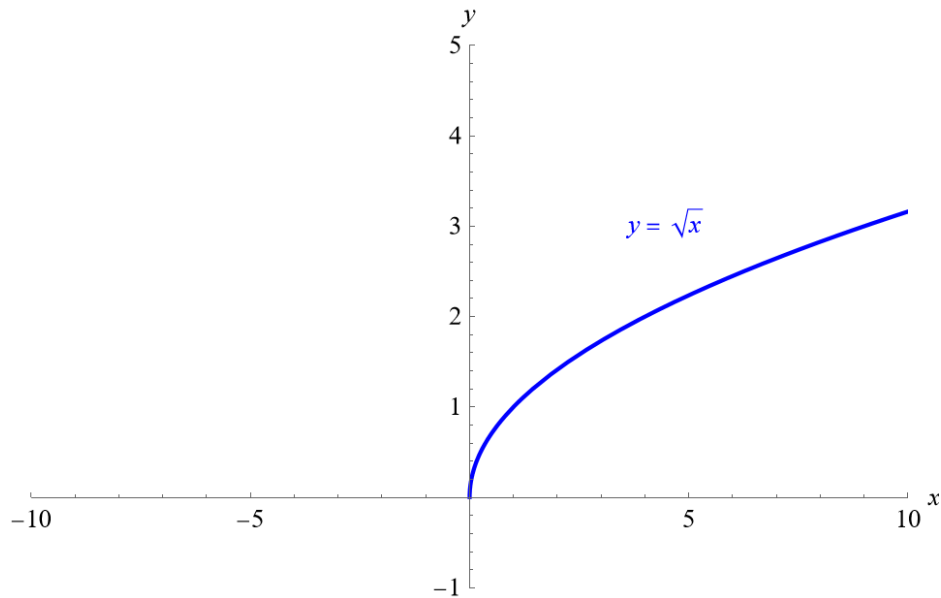## Exercise 69

In Exercises 69–76, graph each function not by plotting points, but by starting with the graph of one of the standard functions presented in Figures 1.14–1.17 and applying an appropriate transformation.
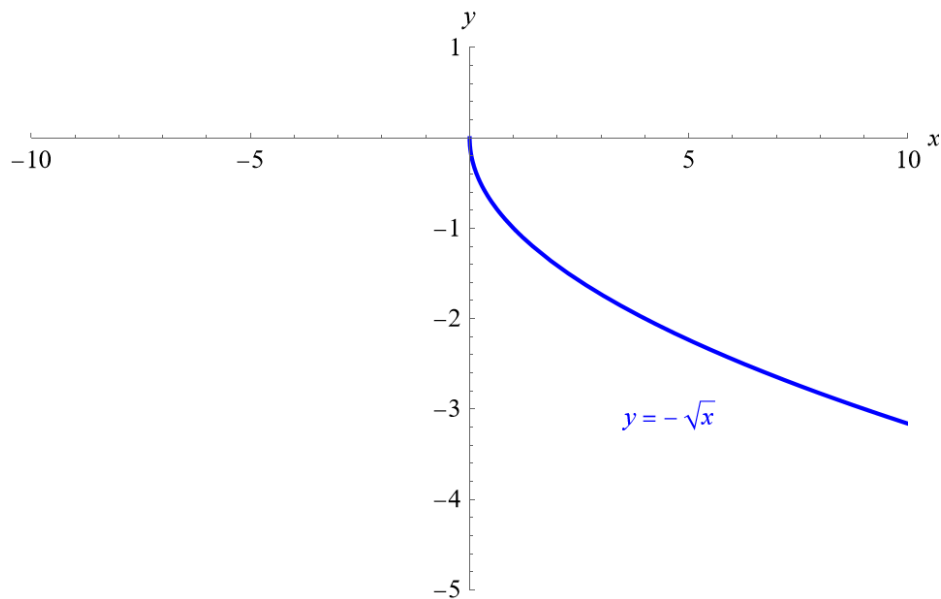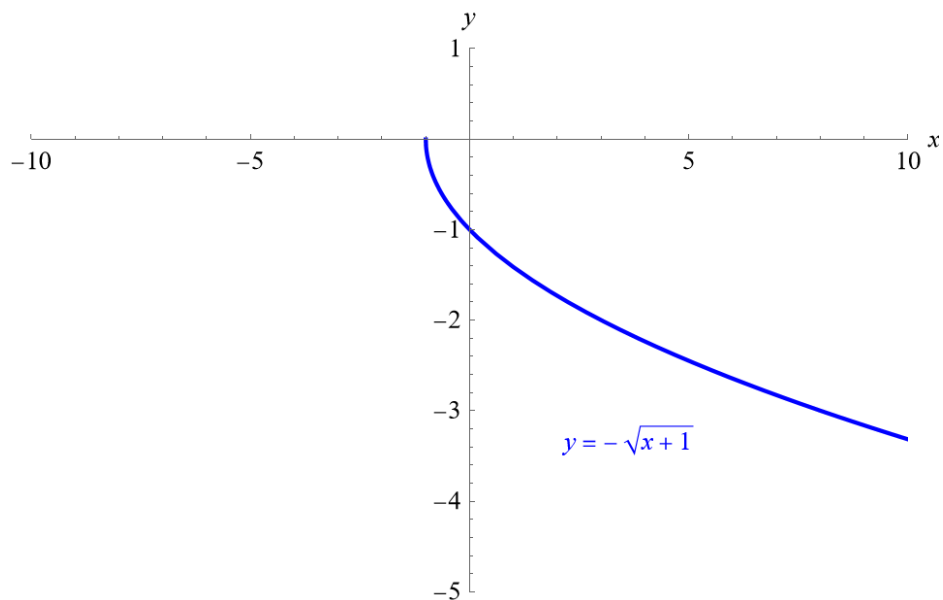
$$y = -\sqrt{2x + 1}$$

Solution

The parent function is $y = \sqrt{x}$.

Multiplying the function by -1 reflects the graph over the x-axis.

Replacing x with $x + 1$ shifts the graph to the left by 1 unit.

$$y = -\sqrt{x + 1}$$

Replacing x with $2x$ compresses the graph horizontally by a factor of 2.

$$y = -\sqrt{2x + 1}$$