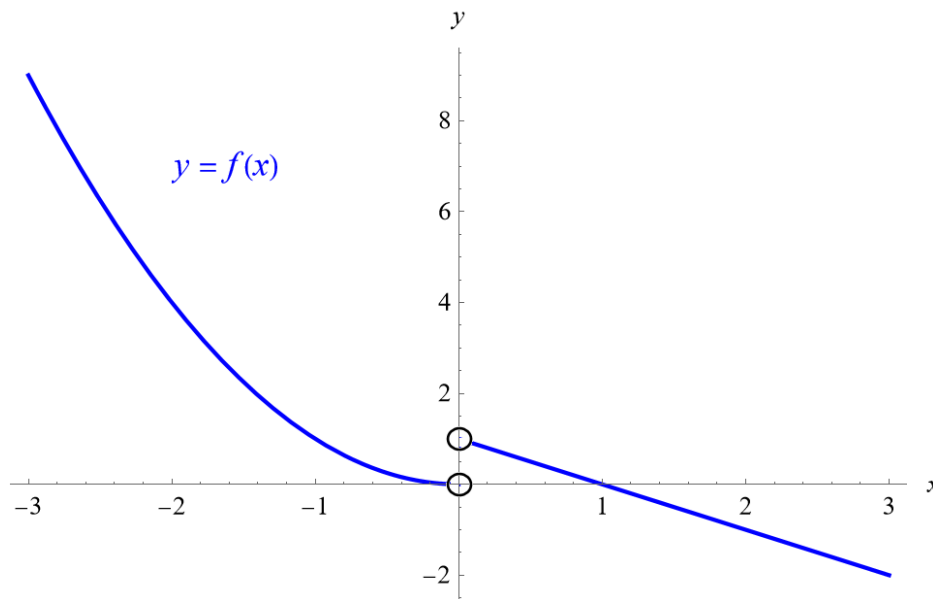## Exercise 42

For the following exercises, sketch a graph of the piecewise function. Write the domain in interval notation.

$$f(x) = \begin{cases} x^2 & \text{if } x < 0 \\ 1 - x & \text{if } x > 0 \end{cases}$$

Solution

Below is a plot of $f(x)$ versus x.

The domain is $(-\infty, 0) \cup (0, \infty)$ because the function has an output for every value of x except zero.