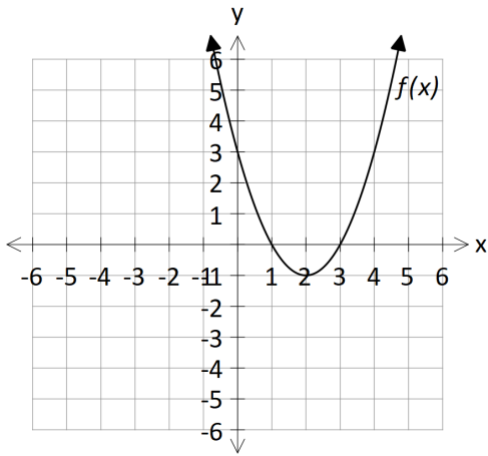


# Pre-Calculus 40S: Review of Radical and Rational Functions

1. Given the graph of  $y = f(x)$  on the grid below, sketch the graph of  $y = \sqrt{f(x)}$  on the same grid.



Domain of  $y = \sqrt{f(x)}$ :

Range of  $y = \sqrt{f(x)}$ :

2. Sketch the following rational functions on the grid provided. Be sure to show all required information.

a)  $y = \frac{x-4}{x^2-5x+4}$

b)  $y = \frac{x^2}{x^2-9}$

c)  $y = \frac{x^3-x}{x^3+2x^2-3x}$

d)  $y = \frac{1-x^2}{x^2+4}$

3. Solve each equation.

a)  $\frac{4}{x+2} + 1 = 0$

b)  $\frac{x-2}{x-4} = x + 3$

c)  $\frac{x^2-x-2}{x^2-4} = x + 6$

d)  $\frac{4}{3x^2-1} = 2 + \frac{10}{6x-1}$

a)  $x - 5 = 2\sqrt{x+3}$

f)  $1 + \sqrt{x-3} = \sqrt{2x-6}$

4. How is the domain of  $y = \sqrt{x^2-9}$  related to the domain of  $y = x^2-9$ ?