

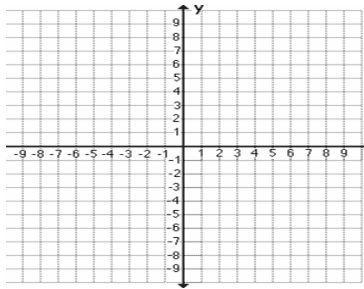
6.2: Square Root Notes
"I WILL ...
Graph Exponentials."

I. Steps

- A. The Equation:
- B. Make a table and plug in solid points OR apply the translations
 - 1. It might be easier to solve for $f(x)$, instead of x
 - 2. Go Backwards
- C. Plot and graph points
- D. Identify the Domain and Range in Interval Notation

II. Model Problems

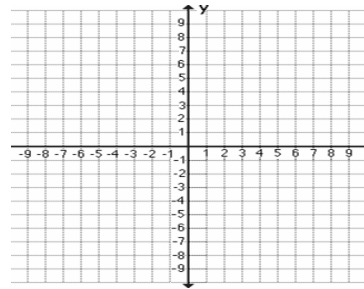
Ex 1: Using the graph, $f(x) = \sqrt{x}$, as a guide, describe the transformation, identify the domain and range, and graph the function, $g(x) = \sqrt{x-4}$



Domain: _____ Range: _____

Translation: _____

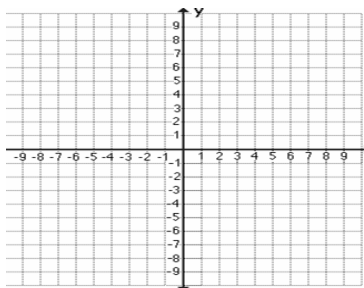
Ex 2: Using the graph, $f(x) = \sqrt{x}$, as a guide, describe the transformation, identify the domain and range, and graph the function, $g(x) = \sqrt{x-4}$



Domain: _____ Range: _____

Translation: _____

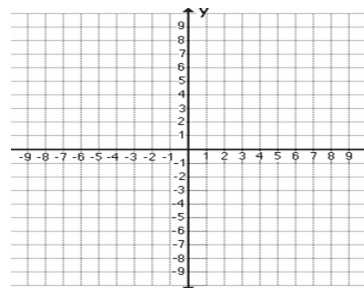
Your Turn: Using the graph, $f(x) = \sqrt{x}$, as a guide, describe the transformation, identify the domain and range, and graph the function, $g(x) = \sqrt{x+5} - 5$



Domain: _____ Range: _____

Translation: _____

Ex 3: Using the graph, $f(x) = \sqrt{x}$, as a guide, describe the transformation, identify the domain and range, and graph the function, $g(x) = 2\sqrt{x+1}$



Domain: _____ Range: _____

Translation: _____

Ex 4: The parent function, $f(x) = \sqrt{x}$, is stretched horizontally by a factor of 2, reflected across the y -axis, and translated 3 units left.

Ex 5: The parent function, $f(x) = \sqrt{x}$, is reflected across the x -axis, compressed vertically by a factor of $1/5$, and translated 5 units down.

Your Turn: The parent function, $f(x) = \sqrt{x}$, is stretched vertically by a factor of 4 and then translated 5 units left and 2 units down.

Ex 6: A framing store uses the function $c(a) = \frac{1}{2}\sqrt{a} + 0.2$ to determine the cost c in dollars of glass for a picture with an area a in square inches. The store charges an addition \$6.00 in labor to install the glass. Write the function d for the total cost of a piece of glass, including installation, and use it to estimate the total cost of glass for a picture with an area of 144 in^2 .