

## Transformations of $\sqrt{x}$ - Lesson

MCR3U

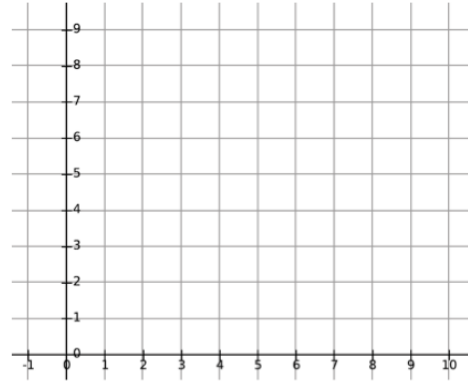
Jensen

Base Function:

Key Points:

$x$	$y$

Graph of Base Function:



**Example 1:** Using the parent function  $f(x) = \sqrt{x}$ , describe the transformations and write the equation of the transformed function  $g(x)$ .

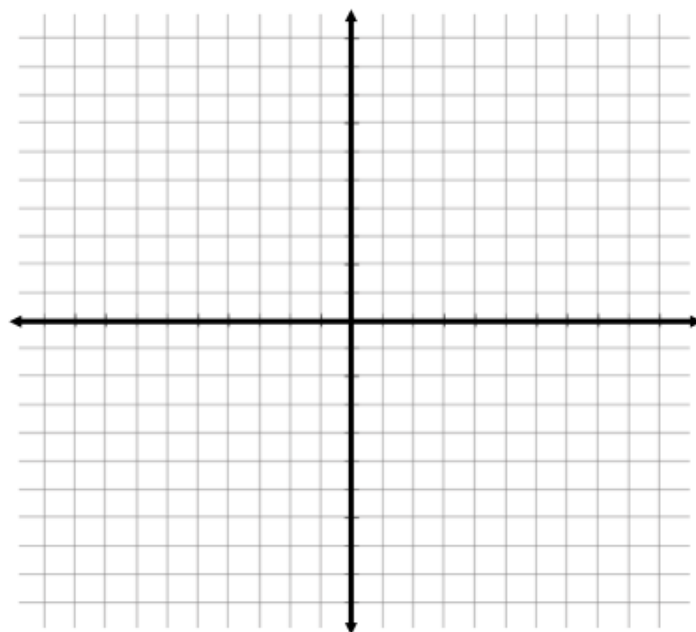
$$g(x) = -2f\left[-\frac{1}{3}(x + 6)\right] - 5$$

**Example 2:** for each of the following functions...

- i) make a table of values for the parent function
- ii) graph the parent function  $f(x) = \sqrt{x}$
- iii) describe the transformations
- iv) make a table of values of image points
- v) graph the transformed function and write its equation

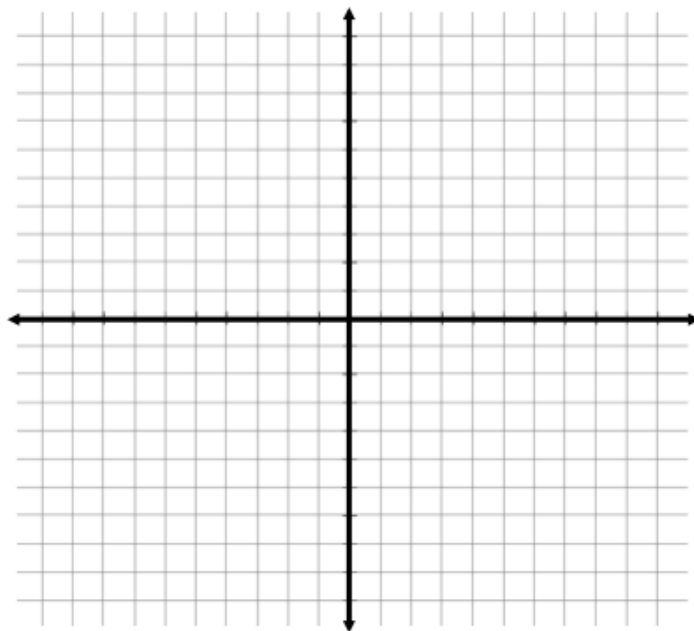
a)  $g(x) = \frac{1}{2}f(x) + 1$

$x$	$y$

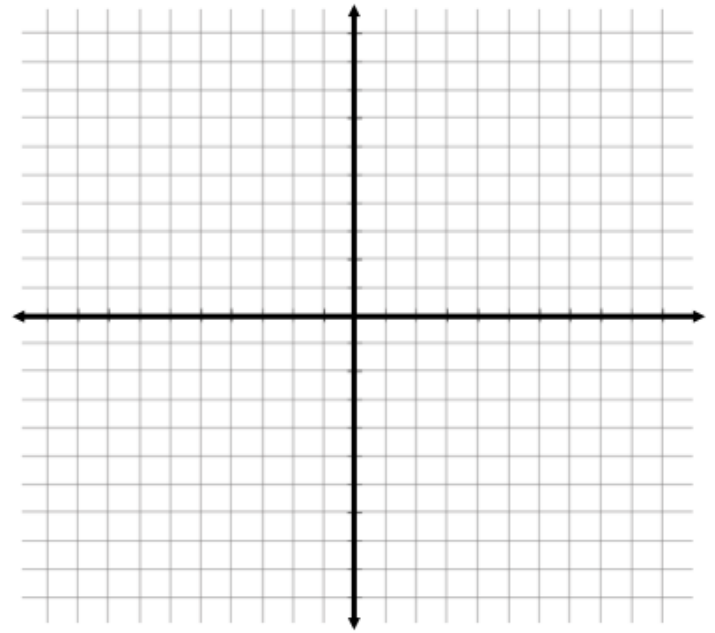


b)  $g(x) = -f[2(x - 3)]$

$x$	$y$



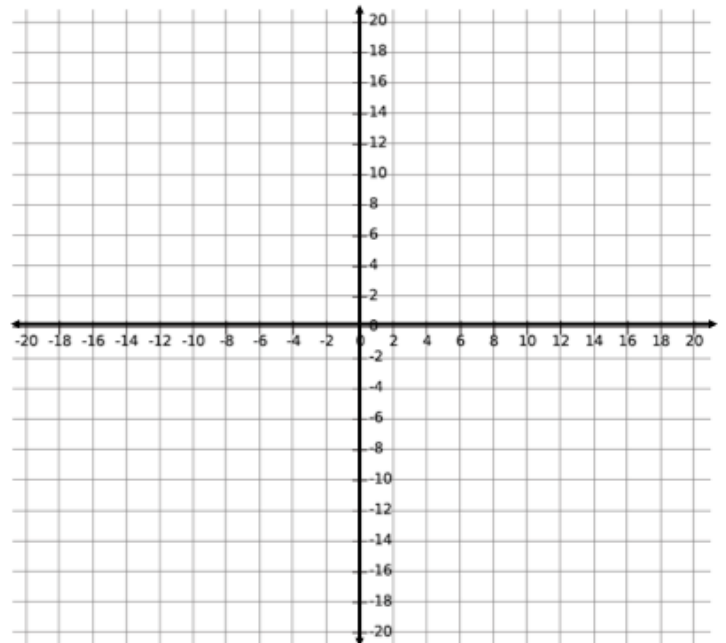
c)  $g(x) = -2f(x + 3) - 1$



$x$	$y$



d)  $g(x) = 3f\left(-\frac{1}{2}x + 2\right) + 1$



$x$	$y$