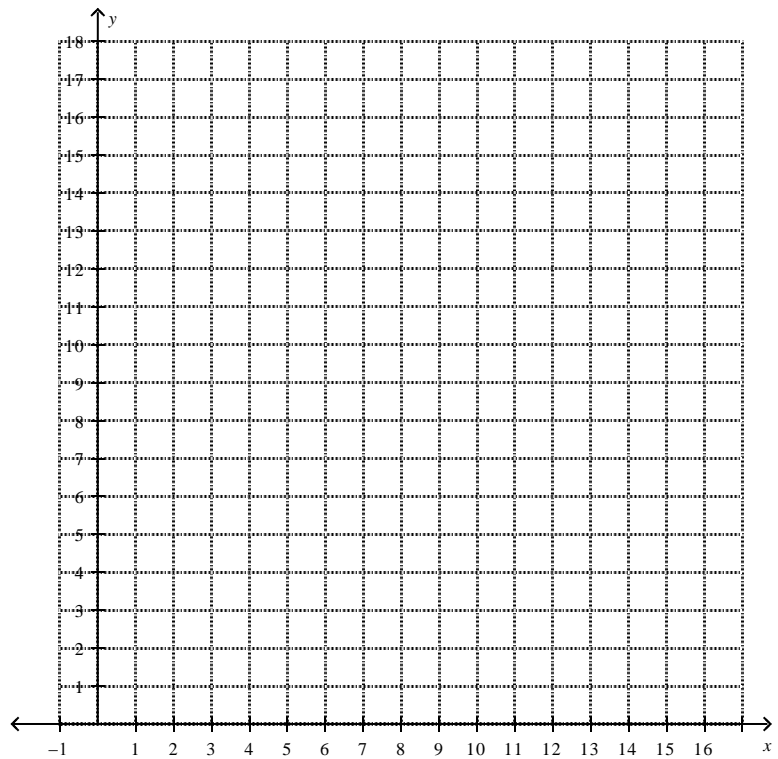# Square Roots of a Function

Given a function _____, the square root of this function is

_____. _____ is only defined for _____.

Example 1

Given $f(x) = 2x + 1$, use tables of values to graph the functions $y = f(x)$

and $y = \sqrt{f(x)}$.

Where do the invariant points occur?

<u>Relative Locations of $y = f(x)$ and $y = \sqrt{f(x)}$.</u>

The domain of _____ consists only of values in the domain of

_____ for which _____.

The range of _____ consists of the square roots of the values in the

range of _____ for which is _____ defined.

Value of $f(x)$	Relative Location of the Graph of $y = \sqrt{f(x)}$
$f(x) < 0$	
$f(x) = 0$	
$0 < f(x) < 1$	
$f(x) = 1$	
$f(x) > 1$	

Example 2

Identify and compare the domains and ranges of $y = -2(x - 3)^2 + 8$ and $= \sqrt{-2(x - 3)^2 + 8}$.

Example 3

Using the graph of $y = f(x)$ below, graph the function $y = \sqrt{f(x)}$.