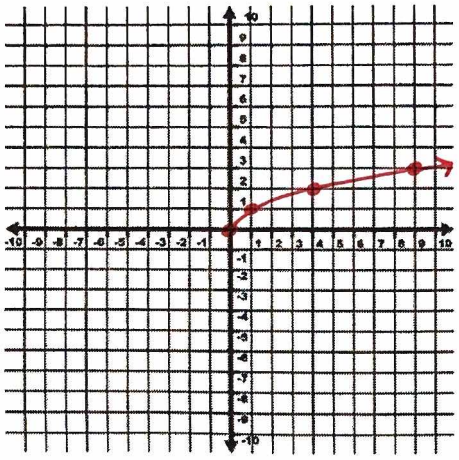
KEY

AA PREP: GRAPHING SQUARE ROOT FUNCTIONS WITH TRANSFORMATIONS—WORKSHEET #1

Graph the square root parent function. Then, graph each of the following square root functions using transformations. State domain and range.

1. $y = \sqrt{x}$

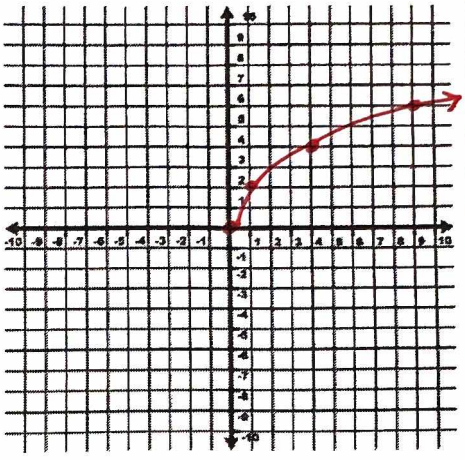
x	y
0	0
1	1
4	2
9	3



Domain: $x \geq 0$ $[0, \infty)$ Range: $y \geq 0$ $[0, \infty)$

2. $f(x) = 2\sqrt{x}$

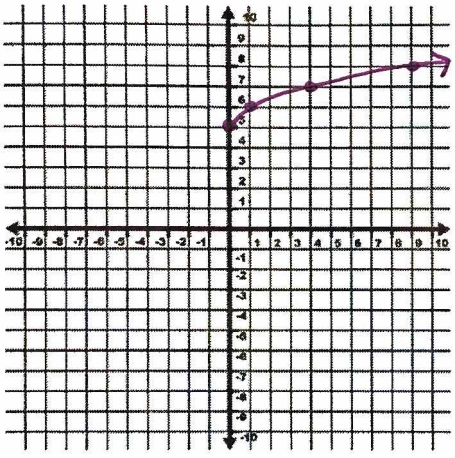
V STRETCH × 2 (y-VALUES × 2)



Domain: $x \geq 0$ $[0, \infty)$ Range: $y \geq 0$ $[0, \infty)$

3. $f(x) = \sqrt{x} + 5$

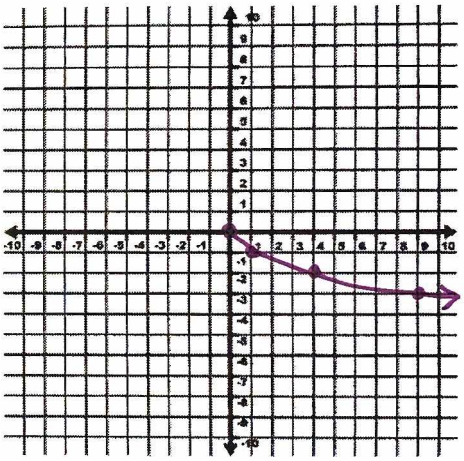
V TRANSLATION 5 ↑



Domain: $x \geq 0$ $[0, \infty)$ Range: $y \geq 5$ $[5, \infty)$

4. $g(x) = -\sqrt{x}$

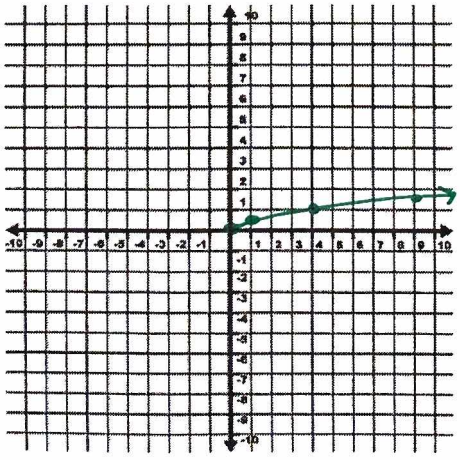
REFLECTS OVER X-AXIS



Domain: $x \geq 0$ $[0, \infty)$ Range: $y \leq 0$ $(-\infty, 0]$

5. $g(x) = \frac{1}{2}\sqrt{x}$

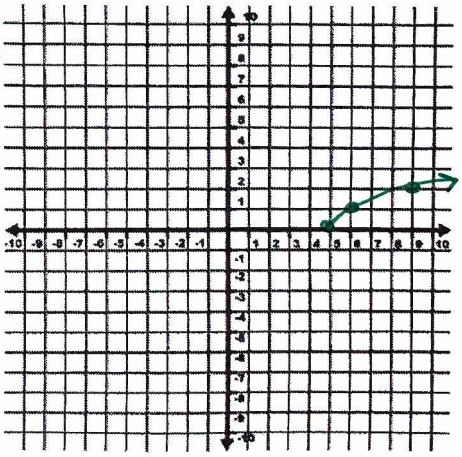
V COMP × $\frac{1}{2}$ (y-VALUES × $\frac{1}{2}$)



Domain: $x \geq 0$ $[0, \infty)$ Range: $y \geq 0$ $[0, \infty)$

6. $y = \sqrt{x - 5}$

H TRANSLATION 5 →



Domain: $x \geq 5$ $[5, \infty)$ Range: $y \geq 0$ $[0, \infty)$