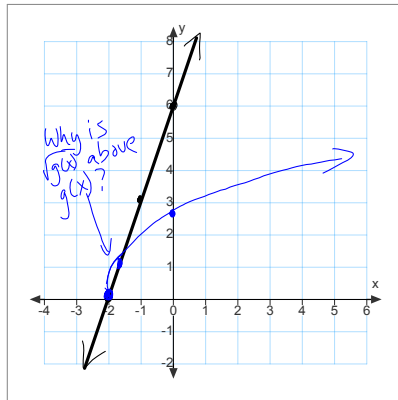


2.2 Square Root of a Function

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

Compare graphs & D & R

Given $g(x)=3x+6$, graph $y=g(x)$ & $y=\sqrt{g(x)}$.



$$y = 3x + 6 \quad y = \sqrt{3x + 6}$$

$$l = 3x + 6 \quad y = \sqrt{3(x + 2)}$$

$$-\frac{5}{3} = \frac{3x}{3} \quad D: x \geq -2$$

$$-\frac{5}{3} = x \quad R: y \geq 0$$

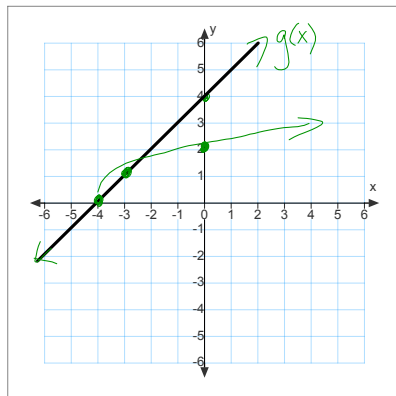
x	g(x)	$\sqrt{g(x)}$
-2	0	0
$-\frac{5}{3}$	1	1
0	6	$\sqrt{6}$

For $g(x)$, $D: \{x \in \mathbb{R}\}$

$\sqrt{g(x)}$, $D: \{x \geq -2\}$

This is the x-int of $g(x)$.

ex) Given the graph $y=g(x)$, graph $y=\sqrt{g(x)}$.



Invariant points
where $g(x) = \sqrt{g(x)} = 0 \text{ \& } 1$
y-int of $\sqrt{g(x)}$ is
 $\sqrt{\text{of } g(x)\text{'s y-int.}}$

$\sqrt{g(x)}$ $D: x \geq \text{x-int of } g(x)$
 $D: \{x \geq -4, x \in \mathbb{R}\}$

$R: \{y \geq 0, y \in \mathbb{R}\}$

Bottom
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