

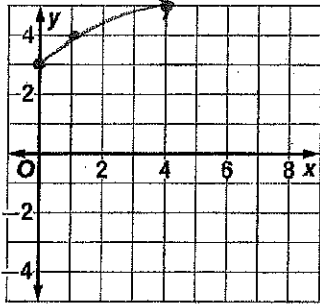
6-3 Skills Practice

Square Root Functions and Inequalities

Graph each function. State the domain and range of each function.

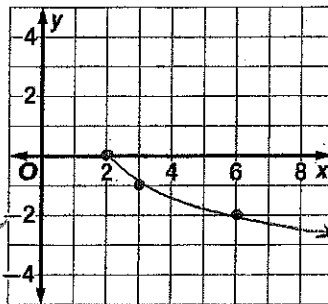
1. $y = \sqrt{x} + 3$ $D: [0, \infty)$
 $R: [3, \infty)$

Domain:
 $x \geq 0$
Range:
 $y \geq 3$



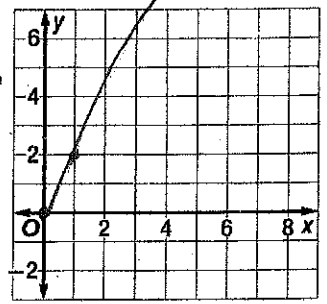
2. $y = -\sqrt{x-2}$ $D: [2, \infty)$
 $R: (-\infty, 2]$

$D: x-2 \geq 0$
 $x \geq 2$
 $R: y \leq 0$
↑
bit of negative



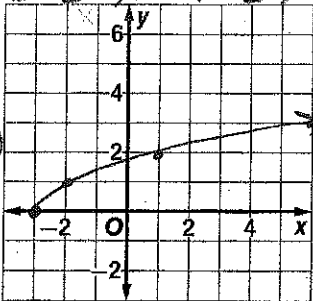
$D: [0, \infty)$
 $R: [0, \infty)$
3. $y = 2\sqrt{x}$

$D: x \geq 0$
 $R: y \geq 0$



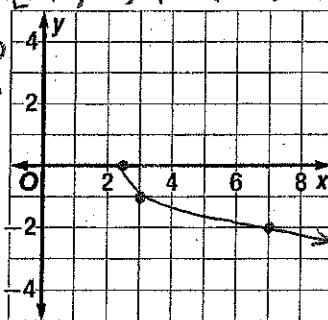
4. $y = \sqrt{x+3}$ $D: [-3, \infty)$ $R: [0, \infty)$

$D: x+3 \geq 0$
 $x \geq -3$
 $D: [-3, \infty)$
 $R: [0, \infty)$



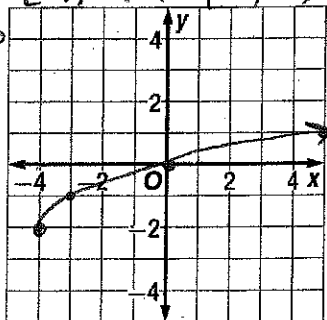
5. $y = -\sqrt{2x-5}$ $D: [2.5, \infty)$ $R: (-\infty, 2.5]$

$D: 2x-5 \geq 0$
 $2x \geq 5$
 $x \geq \frac{5}{2}$



6. $y = \sqrt{x+4} - 2$ $D: [-4, \infty)$ $R: [-2, \infty)$

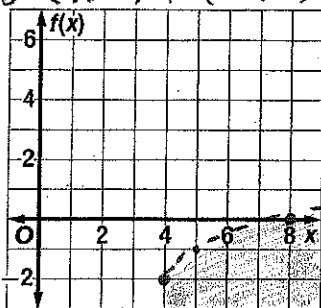
$D: x+4 \geq 0$
 $x \geq -4$
 $R: y \geq -2$



Graph each inequality.

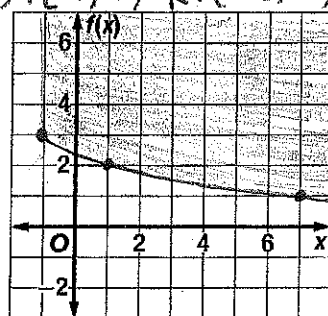
7. $f(x) < \sqrt{x-4} - 2$ $D: (4, \infty)$ $R: (-\infty, \infty)$

$D: x-4 > 0$
 $x > 4$
 $R: \mathbb{R}$



8. $f(x) \geq -\frac{1}{2}\sqrt{x+1} + 3$ $D: [-1, \infty)$ $R: (-\infty, \infty)$

$D: x+1 \geq 0$
 $x \geq -1$
 $R: \mathbb{R}$



9. $f(x) \leq 4\sqrt{x-3}$ $D: [3, \infty)$ $R: (-\infty, \infty)$

$D: x-3 \geq 0$
 $x \geq 3$
 $R: \mathbb{R}$

