

8. Her error is that she squared each term. The correct solution is

$$\sqrt{3x-1} - 4 = 1$$

$$\sqrt{3x-1} = 5$$

$$(\sqrt{3x-1})^2 = 5^2$$

$$3x - 1 = 25$$

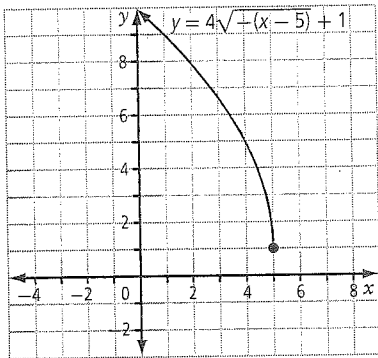
$$3x = 26$$

$$x = 8\frac{2}{3}$$

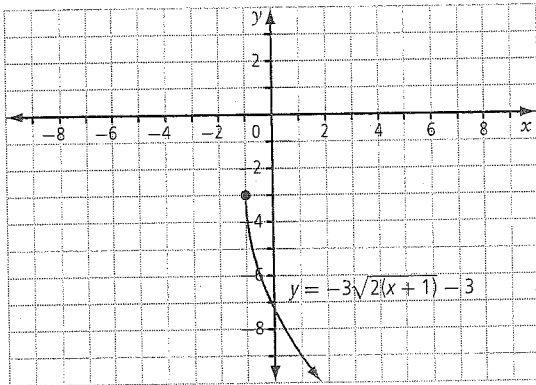
9. a) It has no solution because $\sqrt{2x+7} \neq -2$.
 b) Example: $\sqrt{4x+10} + 6 = 2$.

Chapter 2 Review, pages 63-64

1. a) vertical stretch by a factor of 4, reflection in the y -axis, and a translation of 5 units right and 1 unit up

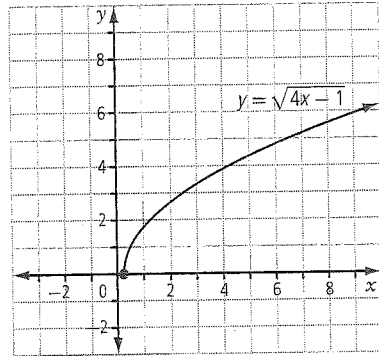


- b) vertical stretch by a factor of 3, reflection in the x -axis, horizontal stretch by a factor of 0.5, and a translation of 1 unit left and 3 units down

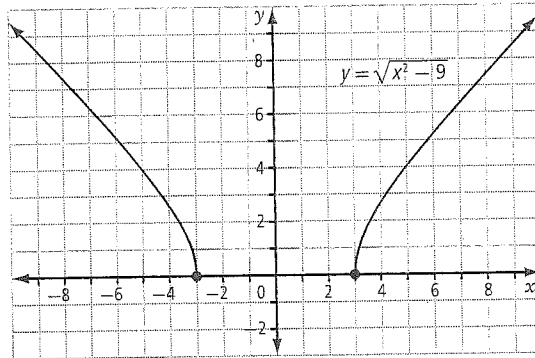


2. a) $y = -4\sqrt{x+5} + 3$; domain: $\{x \mid x \geq -5, x \in \mathbb{R}\}$; range: $\{y \mid y \leq 3, y \in \mathbb{R}\}$
 b) $y = 3\sqrt{x-2} - 5$; domain: $\{x \mid x \geq 2, x \in \mathbb{R}\}$; range: $\{y \mid y \geq -5, y \in \mathbb{R}\}$

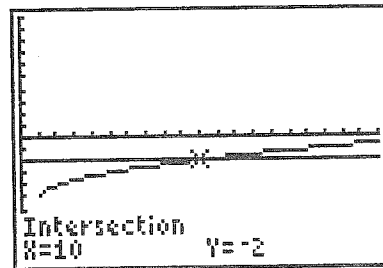
3. a) domain: $\{x \mid x \geq 0.25, x \in \mathbb{R}\}$; range: $\{y \mid y \geq 0, y \in \mathbb{R}\}$



- b) domain: $\{x \mid x \leq -3 \text{ and } x \geq 3, x \in \mathbb{R}\}$; range: $\{y \mid y \geq 0, y \in \mathbb{R}\}$



4. a) $x = 11$ -b) $x = 6$
 5. a) $x \geq 1$; $x = 10$



- b) $x \geq -3$; no solution

