## **A Focus on Square Roots**

Answer each question fully with explanation where needed.

- 1. Is there a value of x such that  $\sqrt{x+5} = 0$ ? If yes, what is the value? If no, **explain why not.**
- 2. Is there a value of x such that  $\sqrt{x} + 5 = 0$ ? If yes, what is the value? If no, **explain why not.**
- 3. Without actually solving the equation, **explain why** the equation  $\sqrt{x + 1} + 2 = 0$  has no solution

Solve each equation and *check the solution*.

4.  $\sqrt{x+3} + 6 = 3$ 

6. 
$$\frac{\sqrt{x+9}}{4} = 3$$

$$5. \quad \sqrt{2x-3} = \sqrt{10-x}$$

7. 
$$\frac{5}{\sqrt{x-2}} = 5$$

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9.  $2\sqrt{x+3} = 6$ 

12.  $\sqrt[3]{9-x} = 6$ 

10.  $\sqrt{3x-5} = 7$ 

13. 
$$\frac{5}{\sqrt{x}-2} = 5$$