

Lesson 9 Practice Problems

1. Find the solution(s) to each of these equations, or explain why there is no solution.

a. $\sqrt{x+5} + 7 = 10$

b. $\sqrt{x-2} + 3 = -2$

2. For each equation, decide how many solutions it has and explain how you know.

a. $(x-4)^2 = 25$

b. $\sqrt{x-4} = 5$

c. $x^3 - 7 = -20$

d. $6 \cdot \sqrt[3]{x} = 0$

3. Jada was solving the equation $\sqrt{6 - x} = -16$. She was about to square each side, but then she realized she could give an answer without doing any algebra. What did she realize?

4. Here are the steps Tyler took to solve the equation $\sqrt{x + 3} = -5$.

$$\begin{aligned}\sqrt{x + 3} &= -5 \\ x + 3 &= 25 \\ x &= 22\end{aligned}$$

a. Check Tyler's answer: Is the equation true if $x = 22$? Explain or show your reasoning.

b. What mistake did Tyler make?

5. Complete the table. Use powers of 16 in the top row and radicals or rational numbers in the bottom row.

16^1		$16^{\frac{1}{3}}$			16^{-1}
	4		1	$\frac{1}{4}$	$\frac{1}{16}$

(From Unit 3, Lesson 3.)

6. Which are the solutions to the equation $x^3 = 35$?

- A. $\sqrt[3]{35}$
- B. $-\sqrt[3]{35}$
- C. both $\sqrt[3]{35}$ and $-\sqrt[3]{35}$
- D. The equation has no solutions.

(From Unit 3, Lesson 8.)