### Lesson 8 Practice Problems

1. Select **all** equations for which -3 is a solution.
	1. $x^{2}=9$
	2. $x^{2}=-9$
	3. $x^{3}=27$
	4. $x^{3}=-27$
	5. $-x^{2}=9$
	6. $\left(-x\right)^{2}=9$
	7. Use the graph of $y=\sqrt[3]{x}$ to estimate the solution(s) to the following equations.
		1. $\sqrt[3]{x}=2$
		2. $\sqrt[3]{x}=-4.5$
		3. $\sqrt[3]{x}=3.75$
	* 
	1. Use the meaning of cube roots to find exact solutions to all three equations.
2. Which are the solutions to the equation $x^{3}=-125$?
	1. 5
	2. -5
	3. both 5 and -5
	4. The equation has no solutions.
3. Complete the table. Use powers of 16 in the top row. Use radicals or rational numbers in the second row.

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

* (From Unit 3, Lesson 5.)
1. Which are the solutions to the equation $\sqrt{x}=-8$?
	1. 64 only
	2. -64 only
	3. 64 and -64
	4. This equation has no solutions.
* (From Unit 3, Lesson 6.)
1. Find the solution(s) to each equation, or explain why there is no solution.
	1. $x^{2}+6=55$
	2. $x^{2}+16=0$
	3. $x^{2}−3.25=21.75$
* (From Unit 3, Lesson 7.)



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