## Unit 3 Lesson 9: Solving Radical Equations

### 1 Math Talk: Radical Equations (Warm up)

#### Student Task Statement

Solve these equations mentally:

$\sqrt[3]{x}=1$

$\sqrt{7}=\sqrt{x−1}$

$\sqrt{100}=2x$

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

### 2 Getting to the Root of the Problem (Optional)

#### Student Task Statement

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

1. $\sqrt{a−5}=5$
2. $\sqrt[3]{a−5}=5$
3. $\sqrt[3]{b}=-2$
4. $\sqrt{c}+2=0$
5. $\sqrt[3]{3−d}+4=0$
6. $\sqrt{7}=\sqrt{x−1}$
7. $\sqrt{36}=3y$
8. $22z=\sqrt[3]{11}$

### 3 Write Your Own Equation (Optional)

#### Student Task Statement

1. Write an equation that includes a radical symbol with:
	1. one solution
	2. no solutions
	3. two solutions
2. Switch with a partner and solve their equations.



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