### Lesson 7 Practice Problems

1. Noah solved the equation $5x^{2}=45$. Here are his steps:
* $\begin{matrix}5x^{2}&=45\\x^{2}&=9\\x&=3\end{matrix}$
* Do you agree with Noah? Explain your reasoning.
1. Find the solution(s) to each equation, or explain why there is no solution.
	1. $\sqrt{x+4}+7=5$
	2. $\sqrt{47−x}−2=4$
	3. $\frac{1}{2}\sqrt{20+x}=5$
2. Which is a solution to the equation $\sqrt{5−x}+13=4$?
	1. 86
	2. 81
	3. 9
	4. The equation has no solution.
3. Select **all** expressions that are equal to $\frac{1}{\left(\sqrt{2}\right)^{5}}$.
	1. $-\frac{5}{\sqrt{2}}$
	2. $\frac{1}{\sqrt{2^{5}}}$
	3. $\frac{1}{\sqrt{32}}$
	4. $-\left(\sqrt{2}\right)^{5}$
	5. $-2^{\frac{5}{2}}$
	6. $2^{-\frac{5}{2}}$
* (From Unit 3, Lesson 5.)
1. Which are the solutions to the equation $x^{2}=36$?
	1. 6 only
	2. -6 only
	3. 6 and -6
	4. This equation has no solutions.
* (From Unit 3, Lesson 6.)
1. Here is a graph of $y=x^{2}$.
* 
	1. Use the graph to estimate all solutions to the equation $x^{2}=3$.
	2. If you square your estimates, what number should they be close to?
	3. Square your estimates. How close did you get to this number?
* (From Unit 3, Lesson 6.)
1. The polynomial function $q\left(x\right)=3x^{3}+11x^{2}−14x−40$ has a known factor of $\left(3x+5\right)$. Rewrite $q\left(x\right)$ as the product of linear factors.
* (From Unit 2, Lesson 12.)



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