### Lesson 10 Practice Problems

* 1. What is the volume of a cube with a side length of
		1. 4 centimeters?
		2. $\sqrt[3]{11}$ feet?
		3. $s$ units?
	2. What is the side length of a cube with a volume of
		1. 1,000 cubic centimeters?
		2. 23 cubic inches?
		3. $v$ cubic units?
1. Write an equivalent expression that doesn’t use a cube root symbol.
	1. $\sqrt[3]{1}$
	2. $\sqrt[3]{216}$
	3. $\sqrt[3]{8000}$
	4. $\sqrt[3]{\frac{1}{64}}$
	5. $\sqrt[3]{\frac{27}{125}}$
	6. $\sqrt[3]{0.027}$
	7. $\sqrt[3]{0.000125}$
2. Find the positive solution to each equation. If the solution is irrational, write the solution using square root or cube root notation.
	1. $t^{3}=216$
	2. $a^{2}=15$
	3. $m^{3}=8$
	4. $c^{3}=343$
	5. $f^{3}=181$
3. For each cube root, find the two whole numbers that it lies between.
	1. $\sqrt[3]{11}$
	2. $\sqrt[3]{80}$
	3. $\sqrt[3]{120}$
	4. $\sqrt[3]{250}$
4. Order the following values from least to greatest:
* $\sqrt[3]{530}, \sqrt{48}, π, \sqrt{121}, \sqrt[3]{27}, \frac{19}{2}$
*
1. The equation $x^{2}=25$ has *two* solutions. This is because both $5⋅5=25$, and also $-5⋅-5=25$. So, 5 is a solution, and also -5 is a solution. But! The equation $x^{3}=125$ only has one solution, which is 5. This is because $5⋅5⋅5=125$, and there are no other numbers you can cube to make 125. (Think about why -5 is not a solution!)
* Find all the solutions to each equation.
	1. $x^{3}=8$
	2. $\sqrt[3]{x}=3$
	3. $x^{2}=49$
	4. $x^{3}=\frac{64}{125}$



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