## Unit 8 Lesson 8 Cumulative Practice Problems

1. Find the exact value of each variable that represents a side length in a right triangle.
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1. A right triangle has side lengths of $a$, $b$, and $c$ units. The longest side has a length of $c$ units. Complete each equation to show three relations among $a$, $b$, and $c$.
	* $c^{2}=$
	* $a^{2}=$
	* $b^{2}=$
*
* (From Unit 8, Lesson 7.)
1. What is the exact length of each line segment? Explain or show your reasoning. (Each grid square represents 1 square unit.)
* a.
* b.
* c.
* 
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* (From Unit 8, Lesson 7.)
1. In 2015, there were roughly $1×10^{6}$ high school football players and $2×10^{3}$ professional football players in the United States. About how many times more high school football players are there? Explain how you know.
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* (From Unit 7, Lesson 15.)
1. Evaluate:
	1. $\left(\frac{1}{2}\right)^{3}$
	2. $\left(\frac{1}{2}\right)^{-3}$
* (From Unit 7, Lesson 6.)
1. Here is a scatter plot of weight vs. age for different Dobermans. The model, represented by $y=2.45x+1.22$, is graphed with the scatter plot. Here, $x$ represents age in weeks, and $y$ represents weight in pounds.
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	1. What does the slope mean in this situation?
	2. Based on this model, how heavy would you expect a newborn Doberman to be?
* (From Unit 6, Lesson 6.)



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