### Lesson 12 Practice Problems

1. Which is larger: the number of meters across the Milky Way, or the number of cells in all humans? Explain or show your reasoning.
* Some useful information:
	+ The Milky Way is about 100,000 light years across.
	+ There are about 37 trillion cells in a human body.
	+ One light year is about $10^{16}$ meters.
	+ The world population is about 7 billion.
*
1. Ecologists measure the body length and wingspan of 127 butterfly specimens caught in a single field.
	1. Draw a line that you think is a good fit for the data.
	2. Write an equation for the line.
	3. What does the slope of the line tell you about the wingspans and lengths of these butterflies?
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* (From Unit 6, Lesson 5.)
1. Diego was solving an equation, but when he checked his answer, he saw his solution was incorrect. He knows he made a mistake, but he can’t find it. Where is Diego’s mistake and what is the solution to the equation?
* $\begin{matrix}-4\left(7−2x\right)=3\left(x+4\right)\\-28−8x=3x+12\\-28=11x+12\\-40=11x\\-\frac{40}{11}=x \end{matrix}$
* (From Unit 4, Lesson 5.)
1. The two triangles are similar. Find $x$.
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* (From Unit 2, Lesson 7.)



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