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| What are RATIOS good for?EHS Cλ3MIs+rγ Mr. Genest |  | Name \_\_\_\_\_\_\_\_\_ Date \_\_\_\_\_\_\_\_\_\_ Tutors! Adults! Help this young chemist by visiting **http:genest.weebly.com** with any smart phone |

Multiplication with units. Use a calculator. Your answer should have units written as one or more words. Round to correct sig figs

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| $$\frac{75 cm}{}\*\frac{3.5 cm}{12.87 liters}=$$$$\frac{91.2 grams}{}\*\frac{117 pretzels}{594.4 grams }=$$ | $$\frac{1.2 grams}{}\*\frac{1 mL}{11.7 grams}=$$$$\frac{1.2 grams}{}\*\frac{11.7 grams}{1 mL }=$$ |

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1. Numbers that are in a relationship (use your common sense)

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| * 1. \_\_\_\_\_ EGGS = \_\_\_\_\_ DOZENS
	2. \_\_\_\_\_EYES = \_\_\_\_\_HUMAN
	3. \_\_\_\_\_LEGS = ­\_\_\_\_\_ SPIDER
 | * 1. \_\_\_\_\_mL = \_\_\_\_\_ liters
	2. \_\_\_\_\_ kilometers = \_\_\_\_\_ millimeters
	3. \_\_\_\_\_yards = \_\_\_\_\_ football field
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1. Rewrite the six numbers-in-relationships from above as ratios there are two versions of each, one an upside down version of the other.
	1. ratios for eggs and dozens could be $(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$
	2. ratios for eyes and humans could be $(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$
	3. ratios for mL and liters could be $(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$
	4. ratios for yards and fields could be$(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$
2. Insert one of your ratios from above into each equation below in a way that the units will cancel. Use a calculator to write an answer that has correct UNITS and sig figs.

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| --- | --- |
| * 1. 225 eggs x $\left(\frac{}{ …………………..}\right)= $
	2. 13 humans x $\left(\frac{}{ …………………..}\right)= $
 | * 1. 9.90 liters x $\left(\frac{}{ …………..}\right)= $
	2. 55 football fields x $\left(\frac{}{ ……….}\right)= $
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| 1. Estimate the level of liquid in the four containers. Remember: read between the lines and add only ONE MORE digit

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1. Equalities based on metric system and on the graph shown here:

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| * 1. Slope of A
	2. Slope of B
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1. Use your two slopes from the graph to write ratios
	1. Two ways to write a ratio based on the Slope of Line A are

$(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$

* 1. Two ways to write a ratio based on the Slope of Line B are

$(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$

* 1. Two ways to write a ratio based on the Slope of Line C are

$(\frac{}{ …………………..})$ or $(\frac{}{ …………………..})$

VI Insert one of your ratios from above into each equation below in a way that the units will cancel. Use a calculator to write an answer that has correct UNITS and sig figs.

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| * 1. 225 cm3 of “A” x $\left(\frac{}{ …………………..}\right)= $
	2. 4.50 g of “A” x $\left(\frac{}{ …………………..}\right)= $
 | * 1. 0.48 g of “B” x $\left(\frac{}{ …………..}\right)= $
	2. 1.65 cm3of “B” x $\left(\frac{}{ …………………..}\right)= $
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