

Warm Up!

1.) Write in agenda book

2.) Find the unknown value in the proportion.

$$\frac{1}{6} = \frac{2}{12} = \frac{7}{42}$$

$$7:2 = 28:\underline{8}$$

Solve using equivalent ratios.

Leila and Jo are two of the partners in a business. Leila makes \$3 in profits for every \$4 that Jo makes. If Jo makes \$60 profit on the first item they sell, how much profit does Leila make? \_\_\_\_\_

Hendrick wants to enlarge a photo that is 4 inches wide and 6 inches tall. The enlarged photo keeps the same ratio. How tall is the enlarged photo if it is

12 inches wide? \_\_\_\_\_

Nov 13-8:52 AM

Nov 13-9:10 AM

Lesson 7.3: Converting Within Measurement Systems

Learning Target: I can convert units within a measurement system.

Steps to Convert Using Proportions

- 1.) Write a proportion using the two units given in the problem (the two things that are being compared).
- 2.) Write the conversion as a proportion.
- 3.) Use common denominators to make sure the proportions are showing equivalent ratios.
- 4.) Find the missing unit.

Nov 13-8:53 AM

Nov 13-8:54 AM

Example 1: What is the weight of a 3-pound human brain in ounces?


$$\frac{1\text{ lb}}{16\text{ oz}} = \frac{1 \times 3}{16 \times 3} = \frac{3}{48}$$

48 oz

Example 2: How many inches are there in 4 feet?

$$\frac{12\text{ in}}{1\text{ ft}} = \frac{12 \times 4}{1 \times 4} = \frac{48}{4}$$

48 in



Nov 13-8:54 AM

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1 Kilometer = 1000 meters  
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Dec 2-1:46 PM

Example 3: A moderate amount of daily sodium consumption is 2,000 milligrams. What is this mass in grams?

$$\frac{1\text{ g}}{1000\text{ mg}} = \frac{1}{1000} = \frac{2}{2000}$$

2 grams



Nov 14-8:59 AM

Example 4: Elena wants to buy 2 gallons of milk but can only find quart containers for sale. How many quarts does she need?


$$\frac{1\text{ gal}}{4\text{ qt}} = \frac{1}{4} = \frac{2}{8}$$

8 qts

Example 5: A package weighs 96 ounces. What is the weight of the package in pounds?


$$\frac{1\text{ lb}}{16\text{ oz}} = \frac{1}{16} = \frac{6}{96}$$

6 lbs



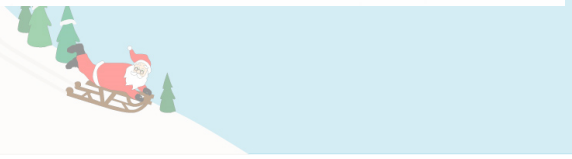
Nov 13-8:55 AM

**Persevere in Problem Solving** A football field is shown at right.

a. What are the dimensions of a football field in feet?  
 $360\text{ ft by }160\text{ ft}$   $53\frac{1}{3}\text{ yd}$  

b. A chalk line is placed around the perimeter of the football field. What is the length of this line in feet?  
 $1040\text{ ft}$

c. About how many laps around the perimeter of the field would equal 1 mile? Explain.



Nov 13-8:56 AM

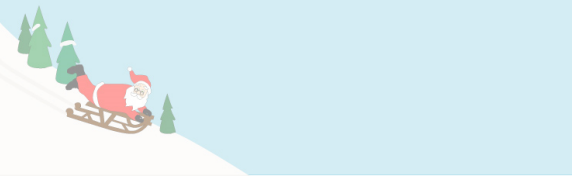
**Look for a Pattern** What is the result if you multiply a number of cups by  $\frac{8\text{ fl oz}}{1\text{ cup}}$  and then multiply the result by  $\frac{1\text{ cup}}{8\text{ fl oz}}$ ? Give an example.

Dec 2-1:13 PM

$1\text{ Ton} = 2,000\text{ pounds}$

To Do:

1. Homework
2. ALEKS- look for topics related to measurement



Dec 2-8:27 AM