

August 7, 2015

Warm Up

1. $3x - 5 + 2x = -15$

2. Solve. $\frac{1}{4}x - \frac{5}{3} = -\frac{25}{24}$

September 9, 2013

How do you convert units?
What is a conversion factor?

Today's CCGPS Standards

- MCC9-12.N.Q.1 Use units as a way to understand problems and guide the solution of multi-step problems; choose and interpret the scale and the origin in graphs and data displays.
- MCC9-12.N.Q.2 Define appropriate quantities for the purpose of descriptive modeling.
- MCC9-12.N.Q.3 Choose a level of accuracy appropriate to limitations on measurement when reporting quantities.

Think about the following scenarios. In what units should they be reported?

1. Water filling up a swimming pool
2. The cost of tiling a kitchen floor
3. The effect of gravity on a falling object
4. A snail traveling across the sidewalk
5. Painting a room

Dimensional Analysis

A method used to make unit conversions

Example:

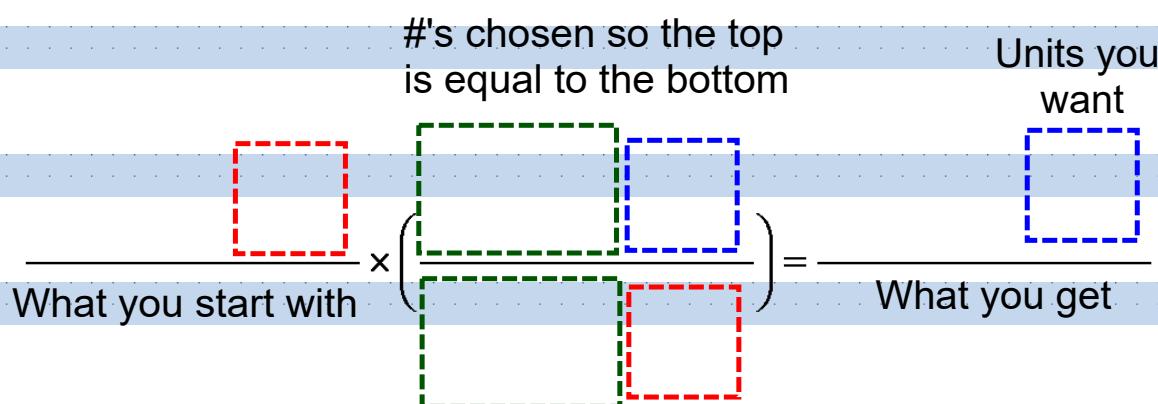
Mount Everest, the tallest mountain on the Earth, is 29,028 ft high. What is its height in miles?



How can we solve this?

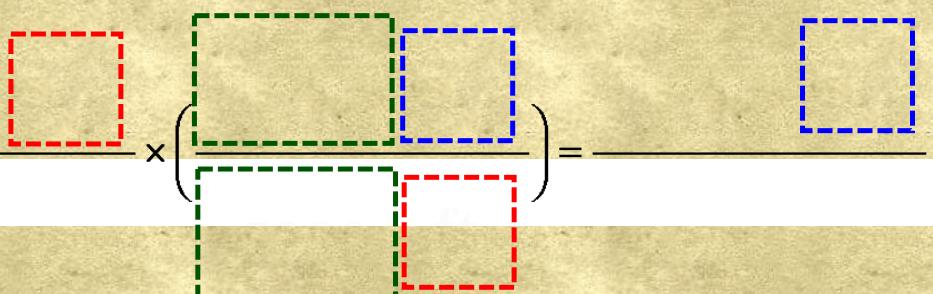
Dimensional Analysis

<http://www.youtube.com/watch?v=XKCZn5MLKvk>

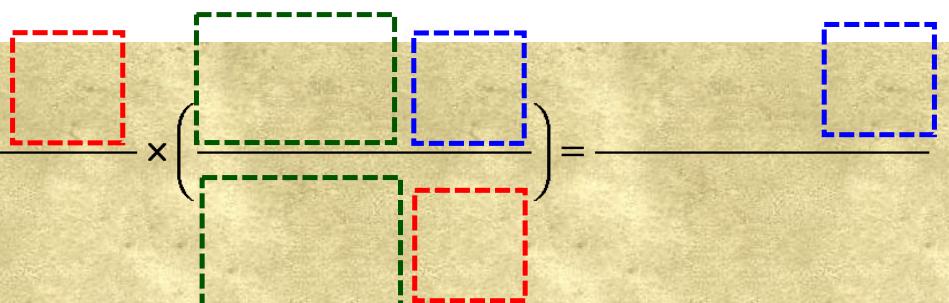


Let's Solve Our Problem

Mount Everest, the tallest mountain on the earth, is 29,028 ft high. What is its height in miles?

$$\underline{\quad} \times \left(\frac{\underline{\quad}}{\underline{\quad}} \right) = \underline{\quad}$$


What is its height in meters?

$$\underline{\quad} \times \left(\frac{\underline{\quad}}{\underline{\quad}} \right) = \underline{\quad}$$


The new Samsung SmartWatch is 4.18 cm in width.



What is that width in inches?

The Costa Concordia is a ship wrecked off the coast of Italy. It weighs 54,000 tons. How many pounds is that weight?



To convert units, multiply by a conversion factor.

(example 1)

problem:

$$4.18\text{cm} = \underline{\hspace{2cm}} \text{inches}$$

conversion factor:

$$1\text{cm} = 0.39\text{inches}$$

work:

$$4.18\text{cm} \bullet \frac{0.39\text{in}}{1\text{cm}} =$$

answer:

Notice the same conversion factor is used.

(example 2)
problem:

$$76 \text{ inches} = \underline{\hspace{2cm}} \text{ cm}$$

conversion factor:

$$1 \text{ cm} = 0.39 \text{ inches}$$

work:

$$76 \text{ in} \bullet \frac{1 \text{ cm}}{0.39 \text{ in}} =$$

answer:

You Try!

1. $12in = \underline{\hspace{2cm}} cm$

Practice these using the given conversion factors.

2. $\$325 = \underline{\hspace{2cm}} \text{ euros}$; 1 dollar = 0.63 euros

3. Convert 1250 cm to meters; 100 cm = 1m

4. $2.5 \text{ cups} = \underline{\hspace{2cm}} \text{ oz}$; $8 \text{ oz} = 1 \text{ cup}$

Classwork / HW



Complete Practice Problems on
your handout!!

You must show work!

