

Conversions

Distance

$$\frac{2.54 \text{ cm}}{1 \text{ in}}$$

Volume

$$\frac{.946 \text{ L}}{1 \text{ qt}}$$

Mass

$$\frac{454 \text{ g}}{1 \text{ lbs}}$$

Energy

$$\frac{1 \text{ cal}}{4.184 \text{ joules}}$$

Conversions to take
Metric to English

Tera 10^{12} 1, 000, 000, 000, 000

Giga 10^9 1, 000, 000, 000

Mega 10^6 1, 000, 000

kilo 10^3 1, 000

hecto 10^2 100

da (deca) 10^1 10

Base Unit

10^0 1

*Base units meters, liters, grams ect. can really be anything, ex 1 kilo dogs would be 1000 dogs.

deci 10^{-1} .1

centi 10^{-2} .01

milli 10^{-3} .001

μ (micro) 10^{-6} .000 001

pico 10^{-9} .000 000 001

nano 10^{-12} .000 000 000 001

English to English and other helpful conversions

Distance

$$\frac{1 \text{ mi}}{5280 \text{ ft}} \quad \frac{1 \text{ yd}}{3 \text{ ft}}$$

$$\frac{12 \text{ in}}{1 \text{ ft}} \quad \frac{1 \text{ mi}}{1760 \text{ yds}}$$

Volume

$$\frac{2 \text{ cup}}{1 \text{ pint}} \quad \frac{8 \text{ oz}}{1 \text{ cup}}$$

$$\frac{1 \text{ qt}}{4 \text{ cups}} \quad \frac{4 \text{ qt}}{1 \text{ gal}}$$

Mass

$$\frac{16 \text{ oz}}{1 \text{ lb}} \quad \frac{2.205 \text{ kg}}{1 \text{ lb}}$$

$$\frac{1 \text{ ton}}{2000 \text{ lbs}}$$

Energy

$$\frac{1 \text{ Cal}}{1000 \text{ cal}}$$

Example: How many kiloliters are in 400 gals?

$$400.0 \text{ gal} \times \frac{4 \text{ qt}}{1 \text{ gal}} \times \frac{.946 \text{ L}}{1 \text{ qt}} \times \frac{1 \text{ kL}}{10^3 \text{ L}} = 1.514 \text{ kL}$$

1. START WITH THE GIVEN

2. NEXT START ATTACKING UNITS TO CANCEL

3. WHEN YOU END WITH THE UNIT YOU'RE LOOKING FOR YOU'RE DONE!

** NOTICE HOW $\frac{x}{x}$ CANCELS OUT THE x UNITS GET THE SAME MATH TREATMENT

*** UNIT WITH PREFIX GETS THE #1 THE BASE UNIT GETS THE POWERS OF 10

Cubic Distance to Volume

$$1 \text{ cm}^3 = 1 \text{ cc} = 1 \text{ mL}$$

Temperature

$$C = (F - 32) / 1.8$$

$$F = (1.8C) + 32$$

$$K = 273 + C$$