

Conversions

Metric to Metric Conversions:

K H D **(b)** d c m
kilo Hecto Deka ^{base} m deci centi milli
g
L

- move decimal as many spaces from given to what you are trying to get to.

Example:

$$8 \text{ km} = \underline{\hspace{2cm}} \text{ m}$$

K H D **(b)** d c m

move decimal 3 places to right.

$$8 \text{ } \rightarrow \rightarrow \rightarrow = 8000$$

$$\boxed{8 \text{ km} = 8000 \text{ m}}$$

Non-metric to metric conversions

miles \rightarrow km

gal \rightarrow liters

lbs \rightarrow kg

* Must have or be given a conversion factor.

$$1 \text{ inch} = 2.5 \text{ cm}$$

$$\frac{24 \cancel{\text{ in}}}{1 \cancel{\text{ in}}} \div 2.5 \text{ cm} = 24 \times 2.5 = \boxed{60 \text{ cm}}$$

$$1 \text{ lbs} = .45 \text{ kg}$$

$$\frac{160 \text{ lbs} \mid .45 \text{ kg}}{1 \text{ lbs}} = \boxed{72 \text{ kg}}$$

★ place whatever you are "getting rid of" opposite/diagonal so that you can cancel the unit.

★ Then multiply or divide, to solve.

$$\frac{24 \text{ mi}}{\text{hr}} \mid \frac{1.61 \text{ km}}{1 \text{ mi}} = 24 \times 1.61 = 38.64$$

$$24 \text{ mi/hr} = 38.64 \text{ km/hr}$$

$$\frac{100 \text{ m}}{9.58 \text{ s}} \mid \frac{1 \text{ km}}{1000 \text{ m}} \mid \frac{60 \text{ s}}{1 \text{ min}} \mid \frac{60 \text{ min}}{1 \text{ hr}} = \boxed{37.6 \text{ km/hr}}$$

$$\frac{37.6 \text{ km}}{\text{hr}} \mid \frac{1.62 \text{ mi}}{1 \text{ km}}$$

$$37.6 \frac{\text{km}}{\text{hr}} = \boxed{23.35 \frac{\text{mi}}{\text{hr}}}$$