Conversions: a.k.a. Dimensional Analysis or Label-factoring

Equalities are used as conversion factors.

$4 = 4 \qquad \frac{4}{4} = \frac{4}{4} = 1$

56.1 ml → ? L

1 L = 1000 mL

$56.1\,\text{ml} \times \frac{1\,\text{L}}{1000\,\text{ml}} = 0.0561\,\text{L}$

amt. given $\times$ (needed label / given label) =

9.72 Kg → ? g

1 Kg = 1000 g

$9.72\,\text{kg} \times \frac{1000\,\text{g}}{1\,\text{kg}} = 9720\,\text{g}$

64.85 cm = ? m

$64.85\,\text{cm} \times \frac{1\,\text{m}}{100\,\text{cm}} = 0.6458\,\text{m}$

how many cm are in 4.8 km?

1 Kilo m = 1000 m

1 m = 100 centi m

$4.8\,\text{km} \times \frac{1000\,\text{m}}{1\,\text{km}} \times \frac{100\,\text{cm}}{1\,\text{m}} = 480000\,\text{cm}$