## EXPANDED CONVERSION TABLES

Revised: 13 Oct 2008

| SI Metric System Conversions |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Conversions SI Metric - Length and Distance |  |  | Conversions SI Metric - Mass |  |  |
|  |  |  | $\begin{array}{\|l\|} \hline 1 \text { tonne } \\ \hline 1 \text { kilogram kg } \\ \hline 1 \text { gram } \mathrm{g} \\ \hline \end{array}$ | = | $1,000 \mathrm{~kg}$ <br> 1,000 grams g <br> 1,000 milligrams <br> mg |
| $\begin{aligned} & \hline 1 \text { kilometre } \mathrm{km} \\ & \hline 1 \text { meter } \mathrm{m} \end{aligned}$ | = | 1,000 metres m |  | $=$ |  |
|  | $=$ | 100 centimetres cm |  | $=$ |  |
| 1 centimetre | $=$ | 10 millimetres mm |  |  |  |
| Conversions SI Metric - Volume |  |  | Conversions SI Metric - Area |  |  |
| 1 litre $1 \times 1,000$ millilitres ml |  |  |  |  |  |
| 1 litre 1 | $=$ | 100 centilitres cl | 1 hectare | $=10,000 \mathrm{~m}^{2}$ |  |
| 1 litre 1 | $=$ | $\begin{aligned} & 1,000 \text { cc (or } 1,000 \\ & \mathrm{~cm}^{3} \text { ) } \end{aligned}$ | So a square 100 m by 100 m is a hectare. Used for measuring land area. |  |  |
| 1 millilitre ml |  | $1 \mathrm{cc}\left(\right.$ or $1 \mathrm{~cm}^{3}$ ) |  |  |  |  |
| 'cc' stands for cubic centimetre which is really just $\mathrm{cm}^{3}$. <br> Notice also that a cube of dimensions 10 cm by 10 cm by 10 cm is a litre |  |  |  |  |  |
| Non-SI System Conversions |  |  |  |  |  |
| Conversions Non-SI (Imperial) - Length |  |  | Conversions Non-SI Imperial - Mass |  |  |
|  |  |  | 1 ton | = | 2,000 pounds lb |
| 1 mile mi | $=$ | 1,760 yards yd | 1 pound lb | = | 16 ounces oz |
| 1 yard yd | $=$ | - 3 feet ft |  |  |  |
| 1 foot ft | $=$ | 12 inches in |  |  |  |
| Conversions Non-SI Imperial Volume (English) |  |  | Conversions Non-SI Imperial Volume (USA) |  |  |
| 1 gallon | = | 0.125 bushels | 1 gallon (US) | $=$ | 0.832 gallons |
| 1 gallon | = | 160 ounces oz |  |  | (English) |
| 1 pint | $=$ | 0.125 gallons | 1 gallon (US) | = | 128 ounces oz |
| 1 quart | $=$ | 0.25 gallons |  |  | (US) |
| 1 pint | $=$ | 0.5 quarts | Really gets confusing with two different volumes depending on your country! |  |  |
| Caution Ounces of weight are different from ounces of volume. |  |  |  |  |  |


| Conversions Non-SI Imperial - Area |  |  |
| :--- | :--- | :--- |
| 1 acre | $=$ | $43,560 \mathrm{ft}^{2}$ |
| 1 acre | $=$ | $4,840 \mathrm{yd}^{2}$ |
| 1 foot ft | $=$ | 12 inches in |
| 1 square mile | $=$ | 640 acres |

So a square having sides of 208 feet would be an acre.
An acre originally was supposed to be the amount of land a horse could plow in one day, so it depended on how good your horse was!

|  |  |  |  |  |  |
| :---: | :---: | :---: | :---: | :---: | :---: |
| Converting between systems |  |  |  |  |  |
| Conversions SI to Non-SI Length |  |  | Conversions Non-SI Imperial - Mass |  |  |
| 1 metre m | $=$ | 3.2808 feet ft | 1 kilogram kg | = | 2.205 pounds lb |
| 1 metre m | $=$ | 39.370 inches in |  |  |  |
|  |  |  | 1 tonne | $=$ | 1.1 ton |
| 1 kilometre km | $=$ | $\begin{aligned} & 0.6214 \text { miles } \\ & \mathrm{mi} \end{aligned}$ |  |  |  |
| 2.54 cm |  | 1 inch |  |  |  |
| Conversions SI to Non-SI Volume |  |  | Conversions SI to Non-SI Area |  |  |
| 1 gallon (English) | $=$ | 4.546 litres | 1 sq mile | = | 259 hectares |
|  |  |  | 1 sq mile | = | 2,589,988 m ${ }^{2}$ |
| 1 gallon (US) | $=$ | 3.785 litres | 1 square metre | = | $10.76 \mathrm{ft}^{2}$ |
| 1 gallon (English) | $=$ | $4,546 \mathrm{cc}^{3}$ | 1 square metre | $=$ | 1,550 $\mathrm{in}^{2}$ |
| 1 gallon (US) | $=$ | $3,785 \mathrm{cc}^{3}$ |  |  |  |

## Examples:

a. To convert 3 miles to kilometres:

$$
3 \text { miles }=\underline{? ? ? ?} \mathrm{~km} ? \quad 3 \mathrm{ki} * \frac{1 \mathrm{~km}}{0.6214 \mathrm{ki}}=4.83 \mathrm{~km}
$$

b. Don't forget!: If the conversion factors you want aren't here you can always apply several different factors to make a complicated conversion. Example:
Eg: To convert 1 ton to kilograms:

$$
1 \lambda \mathrm{k} * \frac{2000 \lambda}{1 \lambda \mathrm{kn}} * \frac{1 \mathrm{~kg}}{2.205 \lambda k}=907 \mathrm{~kg}
$$

c. To convert square feet to square inches (notice you apply the conversion factor twice!):

$$
1 \mathrm{ft}^{2}=1 \mathrm{ft}^{2} * \frac{12 \mathrm{in}}{1 f t} * \frac{12 \mathrm{in}}{1 f t}=144 \mathrm{in}^{2}
$$

