

Unit Conversion

angles

$$2\pi = 6.28 \text{ rad} = 360^\circ = 1 \text{ revolution} = 1 \text{ cycle}$$

mass

$$1 \text{ kg} = 2.2 \text{ lbs.}$$

lengths

$$1 \text{ mile} = 1.6 \text{ km}$$

$$1 \text{ inch} = 2.54 \text{ cm}$$

$$1 \text{ m} = 3.3 \text{ ft}$$

volumes

$$1 \text{ gallon} = 3.78 \text{ Litres}$$

example:

convert:

$$30 \frac{\text{metres}}{\text{second}} = 30 \frac{\text{m}}{\text{s}} \xrightarrow{\text{into}} \frac{\text{km}}{\text{h}}$$

$$30 \frac{\text{m}}{\text{s}} \left(\frac{1 \text{ km}}{1000 \text{ m}} \right) \left(\frac{60 \text{ s}}{1 \text{ min.}} \right) \left(\frac{60 \text{ min.}}{1 \text{ h}} \right) = 30 \cdot \frac{(1)(60)(60)}{(1000)(1)(1)} \frac{\text{km}}{\text{h}}$$

and these cancel

these fractions are all equal to 1

$= 108 \frac{\text{km}}{\text{h}}$