



# Significant Figures & Dimensional Analysis

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# Dimensional Analysis

Converting two completely different units that have specific conversion factors. Common conversion factors are shown below.

## COMMON CONVERSION FACTORS

Length	Mass	Volume	Time
1 in = 2.54 cm	1 kg = 2.205 lb	1 mL = 1 cm <sup>3</sup>	1 min = 60 sec
1 mi = 1.609 km	1 lb = 453.6 g	1 L = 1.057 qt	1 hour = 60 min
1 m = 1.0936 yd	1 oz = 28.3495 g	1 tbsp = 14.787 mL	1 hour = 3600 sec
1 mi = 1609.3 m		1 gal = 4 qt	1 day = 24 hours
1 ft = 12 in		1 L = 1 dm <sup>3</sup>	1 year = 365 days
1 yd = 3 ft		1 ft <sup>3</sup> = 28.317 L	

### EXAMPLE 1: Convert 4.0 yd to ft

Conversion Factor: 1 yd = 3 ft

Start with the given unit (yd) and align units so they can cancel

$$\begin{array}{r}
 4.0 \text{ yd} \\
 \hline
 \frac{3 \text{ ft}}{1 \text{ yd}}
 \end{array}$$

Answer: 12 ft