

# Unit conversion values used in CHM 109

Fall 2008

(Note: If you do not know the conversions within the English system [ex.: 2 pt = 1 qt],  
Google: English unit conversions.)

## Distance

1 yard = 0.9144 m from: [http://www.ngs.noaa.gov/PUBS\\_LIB/FedRegister/FRdoc59-5442.pdf](http://www.ngs.noaa.gov/PUBS_LIB/FedRegister/FRdoc59-5442.pdf)

1 foot = 0.3048 m derived from above by calculation

3.281 ft = 1 m

1 inch = 2.540 cm derived from above by calculation (More recently, 1 in = 2.54 cm *by definition*, and therefore, *exactly*)

Because we will use this conversion as exact, it has  $\infty$  number of *s.f.*.

0.3937 in = 1 cm

## Volume

1 fluid ounce = 29.57353 mL from the Washington State Department of Transportation  
<http://www.wsdot.wa.gov/Reference/metrics/factors.htm#volume>

We will shorten this to:

1 fl oz = 29.57 mL

These conversions will have 4 *s.f.*.

0.03381 fl oz = 1 mL

1 pt = 473.2 mL

1 quart = 946.4 mL

1.057 qt = 1 L

## Mass/weight

From the National Bureau of Standards

1 pound = 0.45359237 kg from: [http://www.ngs.noaa.gov/PUBS\\_LIB/FedRegister/FRdoc59-5442.pdf](http://www.ngs.noaa.gov/PUBS_LIB/FedRegister/FRdoc59-5442.pdf)

We will shorten this to 5 places:

1 lb = **0.45359** kg

These conversions will have 5 *s.f.*.

2.2046 lb = 1 kg

1 ounce = 28.350 g