

## AP WORKSHEET 00B: Unit Conversions

This worksheet utilizes the conversions given at this web site <http://www.onlineconversion.com>

1. Perform the following conversions. In each case show the full, dimensional analysis. Source any conversion factors from the web site above. An example is given below. (6)

**Question:** 3.00 cm to mm.

**Answer:**  $\left(\frac{3.00 \cancel{\text{cm}}}{1}\right)\left(\frac{10 \text{ mm}}{1 \cancel{\text{cm}}}\right) = 30 \text{ mm}$

- (a) 120 J to MJ  
(b) 3 m to cm  
(c) 400 miles to km  
(d) 25 hectares to acres  
(e) 34 inches to ft  
(f) 289 s to hrs
2. Perform the following conversions. In each case you do NOT need to show the full, dimensional analysis. Source any conversion factors from the web site above. (6)

- (a) 120000 J to kJ  
(b) 13 kg to lbs  
(c) 83.2 K to °C  
(d) 48 mins to ms  
(e) 34 °F to °C  
(f) 13.2 kg to lbs

3. Perform the following *sequences* of conversions. In each case show the full, dimensional analysis. Source any conversion factors from the web site above. An example is given below.

(6)

**Question:** 3.00 cm to m VIA mm.

**Answer:** 
$$\left(\frac{3.00 \cancel{\text{cm}}}{1}\right)\left(\frac{10 \cancel{\text{mm}}}{1 \cancel{\text{cm}}}\right)\left(\frac{0.001 \text{ m}}{1 \cancel{\text{mm}}}\right) = 0.03 \text{ m}$$

- (a) 679 nm to cm VIA m
- (b) 23 miles to m VIA km
- (c) 567 feet to m VIA yd
- (d) 12 L to UK gal VIA mL
- (e) 8 MJ to J VIA kJ
- (f) 418 s to hrs VIA min

