

Revised August 2011



HONORS WORKSHEET 1b: 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

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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