ANSWERS TO HOMEWORK 1c

(for you to PRACTICE ON YOUR OWN the ones you got wrong)

A._Conversions:

2.1×10^{-10} km $(10^3$ m / km) (1 mm / 10^{-3} m) = $2.1 \times 10^{-10+3-(-3)}$ mm = 2.1×10^{-4} mm

3.5×10^{8} μg $(10^{-6}$ g / 1 μg) (1 kg / 10^3 g) = $3.5 \times 10^{8+(-6)-(3)}$ kg = 3.5×10^{-1} kg or .35 kg

2.1 ft (12 in / ft) (2.54 cm / in) = 64 cm to 2 sig. figs

430. m (100 cm /m) (1 in /2.54 cm) (1 ft /12 in) (1 mi /5280 ft) = .267 miles to 3 sig. figs

86 lb (454 g /lb) = 39044 g ; to 2 sig. figs this is 39000 g or 3.9×10^4 g

120 lb (454 g /lb) (1 kg /1000 g) = 54.48 kg = 55 kg to 2 sig. figs

22^o F: F = 1.8 C + 32, so 22 = 1.8 C + 32

-32 -32

-10 = 1.8 C C = -10 /1.8 = $-5.6\ ^o$ C

130 mw (10^{-3} w /mw) (1 kw /10^3 w) = $1.3 \times 10^2 \times 10^{-3} / 10^3$ kw = $1.3 \times 10^{2-3-(3)}$ kw = 1.3×10^{-4} kw

352 ml (10^{-3} L /ml) = 352×10^{-3} L = 3.52×10^{-1} L

OR 352 ml (1 L /1000 ml) = .352 L

B._Density of molybdenum if a 4.5 cm^3 sample has a mass of 45.627 g.

D = mass/vol = 45.627 g / 4.5 cm^3 = 10.139 g /cm^3 = 10. g /cm^3 to 2 sig. figs