Chem E-1a
Friday Review Problems
Chapters 1 and 2

1. Using your calculator, perform the following calculations. Round your answer to a maximum of three or four digits.

   a) $\dfrac{1.006 \times 10^{-3}}{2.3 \times 10^{8}}$

   b) $(2.06 \times 10^{2}) + (1.32 \times 10^{4}) - (1.26 \times 10^{3})$

   c) $(5.2 + 3.31 + 7) \times (1.24 \times 10^{6})$

2. You may have heard the expression, "Give him an inch and he'll take a mile." In fact, the original expression was "Give him an inch and he'll take an *ell*." An *ell* is an old unit of length, which is defined as exactly 45 inches. What is the length of an ell in meters?
    Note: 1 inch = 2.54 cm

3. Given the following units of volume and length:
    1 barrel (of oil) = 0.1590 m^3
    1 mL = 1 cm^3
    1 ft = 12 inches
    1 inch = 2.54 cm
   1 kg = 2.205 pounds

    a) A particular sample of crude oil has a density of 0.85 g/mL.
        Determine the mass of 1.00 barrel of this crude oil, in kilograms.

    b) Calculate the volume, in cubic feet, of 1.00 barrel of oil.

    c) Determine the density of oil in units of pounds per cubic foot.

4. I) Write an acceptable chemical name for each of the following:

a) $CuCl_2$

b) Hg_2I_2

c) S_2F_4

d) KOH

e) V_2O_5 (note: V = Vanadium)

f) CO_3^{2-}

g) H_2

h) H_3PO_4

i) NH_3
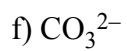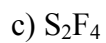
II) Write the chemical formula for each of the following:
   a) Ammonium Sulfate

   b) Calcium Chlorate

   c) Aluminum Oxide

   d) Sulfur Hexafluoride

   e) Lead (II) Phosphate

   f) Ferric Hydroxide

   g) Manganese (VII) Oxide

   h) Nitrate

   i) Fluorine