Mr. Gunstenson
Physical Science 20
Unit 4 – The Mole Question Set #2

1. Find the number of particles in each of these substances:
   a. 5.00 mol Fe
   b. 0.200 mol NaI
   c. 34.0 mol SO_3
   d. 5.25 x 10^{-4} mol K_2S
   e. 0.750 mol Zn
   f. 0.400 mol N_2O_5
2. How many moles is each of the following:
   a. 6.02 x 10^{22} molecules Br_2
   b. 4.81 x 10^{24} atoms Li
   c. 1.50 x 10^{23} molecules NH_3
   d. 1 billion molecules of O_2
   e. 1.20 x 10^{25} atoms of P
   f. 1.20 x 10^{24} molecules of CO_2
3. Calculate the grams present in:
   a. 0.200 moles of H_2S
   b. 0.100 moles of KI
   c. 1.500 moles of KClO
   d. 0.750 moles of NaOH
   e. 3.40 x 10^{-5} moles of Na_2CO_3
4. Calculate the moles present in:
   a. 2.00 grams of H_2O
   b. 75.57 grams of KBr
   c. 100. grams of $KClO_4$
   d. 8.76 grams of NaOH
   e. 0.750 grams of Na_2CO_3
5. How many molecules are in 5.31 grams of SF_2
6. How many atoms are in 0.435 grams Mg
7. If we have 23.5 grams of CH_4, how many molecules do we have?
8. If we have 146 grams of Au, how many atoms do we have?
9. How many grams are in 4.57 x 10^{22} molecules of SF_2
10. Calculate the mass (in grams) for 1.08 x 10^{22} atoms of Mg
11. How many grams are in 8.84 x 10^{23} molecules of SF_2
12. Calculate the mass (in grams) for 8.14 x 10^{23} molecules of Mg
13. Calculate the mass of:
    a. 4.87 mol of sulfur
    b. 0.342 mol of carbon
    c. 1.92×10^{21} atoms of magnesium
    d. 8.00×10^{24} atoms of helium
14. Calculate the number of moles of:
    a. 27.0 g of lead
    b. 0.5108 g of silicon
15. Calculate the number of atoms in:
    a. 0.100 g of manganese
    b. 86.7 g of chromium