AP CHEMISTRY

TOPIC 1: CHEMICAL FOUNDATIONS, MORE REVIEW

Day 9:

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1) Would you expect the following atoms to gain or lose electrons when forming ions? If so, how many would be gained or lost (and indicate the charge for each)?

a) Ca b) Cs c) N d) Fr

e) Br f) Ga g) Se h) I

2) Convert 5.89×10^{34} ng to pounds (1 lbs. = 454 grams)

3) Calculate 4.67×10^{5} liters to cubic yards. (1 inch = 2.54 cm, $1\ cm^3 = 1\ mL$)

4) Write the correct name for the following compounds:

a. HBr _____

b. AgOH _____

c. $(NH_4)_3PO_2$ _____

d. P_4O_8 _____

e. H_2CrO_4 _____

f. $Ba(ClO_4)_2$ _____

f. $Al(C_2H_3O_2)_3$ _____

h. $Zn(NO_2)_2$ _____

i. Ca_3N_2 _____

5) Write the correct formula for each of the following compounds:

a. hydrosulfuric acid _____

b. tungsten(V) hypophosphite _____

c. cobalt(III) iodate _____

d. copper(II) hydroxide _____

e. manganese(IV) perchlorate _____

f. gold(I) sulfate _____

g. hexa-phosphorus tri-bromide _____

h. hypochlorous acid _____

i. iron(II) carbonate _____

6) Calculate the molar mass for the following compounds:

a. $C_{14}H_{28}O_4$

b. $CuSO_4 \bullet 5\ H_2O$

c. chromium(III) hypochromite

d. hydro-iodic acid

7) A sample of nickel(III) acetate has a mass of 58.22 g. Calculate the number of atoms for carbon in this sample?

8) Calculate the number of milligrams of manganese(II) chlorate that are in 5.87×10^{27} molecules of manganese(II) chlorate?

9) A certain metal contains the following isotopes: 5.8% has a mass of 54 amu, 91.72% has a mass of 56 amu, 2.2% has a mass of 57 amu, and 0.28% has a mass of 58 amu. First determine the average atomic mass and then identify the element.

10) Determine the empirical formula for a compound that contains 53.73% iron and 46.27% sulfur.

11) Determine the empirical formula of a compound that contains 8.70 grams of potassium, 8.77 grams of selenium and 7.10 grams of oxygen? When writing the formula - write the symbols in the order given.

12) A certain hydrocarbon contains 84.2% carbon, and 15.8% hydrogen. The molecular mass for this compound is 114 $^{g}/_{mol}$ - Determine the molecular formula for this compound?

13) Fill in the missing information:

Symbol	Number of Protons in Nucleus	Number of Neutrons in Nucleus	Number of Electrons	Net Charge
	80	125		+2
$^{187}_{74}W^{+5}$				
	28	32	26	