**Unit 4 – Nomenclature Review**

1) Where are the periods on the periodic table?

2) Where are the families?

3) Which families have special names (4 of them) and what are they?

4) Where are the metals? Non-metals? What separates them and where is it?

5) Where are the representative elements? Where are the transition elements?

6) What is the combining capacity pattern for the representative elements?

7) What would result if a neon atom somehow had a proton removed from it?

8) What results when aluminum loses three electrons? When sulfur gains two electrons?

9) How do you calculate atomic mass?

10) Why is atomic mass often a decimal on the periodic table?

11) How many protons, neutrons, electrons, and what is atomic mass for 112Sn4+ ?

12) Give the chemical symbol notation for a particle with a mass of 74 amu, has 40 neutrons, and 36 electrons.

13) Why do atoms give up or gain electrons?

14) Write formulas for each of the following names: a) potassium oxide (b) strontium bromide (c) sulfur tetroxide (d) lead (IV) carbonate (e) dinitrogen monoxide (f) phosphorus dichloride (g) ammonium sulfate (h) iron (II) chloride trihydrate (i) sulfuric acid (j) hydrobromic acid

(k) magnesium hydroxide (l) nitric acid (m) copper (II) sulfate pentahydrate (n) sulfur trioxide

15) Name the following compounds: a) Fe2O3 (b) Cs2S (c) N2O5 (d) HI (e) CuCl2°5H2O (f) H2SO3

(g) ZnSO4 (h) CO (i) PCl5 (j) NaBr (k) (NH4)3PO4 (l) CuOH (m) Co2(CO3)3 (n) CaSO4°H2O

**ANSWERS**

1) Horizontal Rows 1-7

2) The Vertical Columns (1-18)

3) Group 1 – Alkali Metals, Group 2 – Alkaline Earth Metals, Group 7A – Halogens, Group 8A – Noble Gases

4) Metals on left, non-metals on right, staircase starting between Boron and Aluminum

5) Representative Elements on left and Right (Columns 1, 2, 13-18), Transition Metals 3-12

6) Groups 1, 2, 3A, 4A, 5A, 6A, 7A, 8A: +1, +2, +3, +4/-4, -3, -2, -1, 0

7) It would become F- as it would now only have 9 protons, a characteristic of Fluorine.

8) Al3+ ion, S2- ion

9) atomic mass = #protons + #neutrons

10) Atomic Mass is a weighted average of all of the naturally occurring isotopes of an element

11) 50p, 62n, 46e, 112amu

12) 7434Se2-

13) To have stable, full electrons shells like a noble gas

14) a) K2O (b) SrBr2 (c) SO4 (d) Pb(CO3)2 (e) N2O (f) PCl2 (g) (NH4)2SO4 (h) FeCl2°3H2O (i) H2SO4

(j) HBr (k) Mg(OH)2 (l) HNO3 (m) CuSO4°5H2O (n) SO3

15) a) iron (III) oxide (b) cesium sulfide (c) dinitrogen pentoxide (d) hydroiodic acid

(e) copper (II) chloride pentahydrate (f) sulfurous acid (g) zinc sulfate (h) carbon monoxide

(i) phosphorous pentachloride (j) sodium bromide (k) ammonium phosphate

(l) copper (I) hydroxide (m) cobalt (III) carbonate (n) calcium sulfate monohydrate