**Homework #3: Chemistry 1013 Spring 2015**

 **Due Wednesday 18 February in class 20 pts**

**Your name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_answers\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ 1 pt**

**3.1. Periodic Table Geography (8 pts)**

Using the information supplied on pp. 57-59, and, the Geography of Periodic Table Powerpoint slide

from lecture 5 supply the following information:

1. name of the column Ca is found in\_\_\_\_\_\_\_\_\_alkaline earth\_\_\_\_\_\_\_
2. Ag and Au are what kind of metals ? \_\_\_\_\_\_\_\_\_noble\_\_\_\_\_\_\_\_\_\_\_\_
3. Uranium (U) is in the row named \_\_\_\_\_\_\_\_lanthanide\_\_\_\_\_\_\_\_\_\_\_\_
4. name of the column Br lives in \_\_\_\_\_\_\_\_\_halogen\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. name of the column Cs (cesium) is found in\_\_\_\_\_\_alkali metal\_\_\_\_\_
6. The diagonal set of elements Al, Ge, Sb and Po are called \_\_\_\_metalloids\_\_\_\_\_\_\_\_\_\_
7. Cr is (circle the best answer): non-metal actinide transition metal halogen
8. Ar is a(n)\_\_\_noble\_\_\_\_\_\_\_\_\_\_\_\_gas

**3.2. Binary, Ionic Compound Building (5 pts)**

What is the most likely formula for a binary, ionic compound composed of:

1. Ba + Cl \_\_\_\_\_\_BaCl2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. K + O \_\_\_\_\_\_\_K2O\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
3. Mg + As \_\_\_\_\_\_Mg3As2\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
4. Al + S \_\_\_\_\_\_Al2S3\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
5. Na + N \_\_\_\_\_\_\_Na3N\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

**3.3 Converting Metric Units and Operations Using Scientific Notation (6 pts)**

1. Express 2.0\*10-4/5.0\*10‑6 as a single scientific notation number:\_\_\_4\*101\_\_\_\_\_\_\_\_\_
2. Add 1.0\*10‑3 + 2.0\*10‑4 and express as a single scientific notation number\_\_\_1.2\*10-3\_\_\_
3. Express 5.0\*10‑5 \*4.0\*104 as a single scientific notation number: 2.0\*100 (2.0 ok too.)
4. 10 nm = \_\_\_\_1\*10-8\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_m (use scientific notation)
5. 400 pg = \_\_\_4.00\*10-10\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ g (use scientific notation)
6. 100 ks = \_\_\_\_\_\_\_1.0\*10‑1\_\_\_\_\_\_\_\_ Ms