**Honors Chemistry**

**Periodic Trends Worksheet 2**

1. Write the equations that show the process for (a) the first two ionization energies of tin and (b) the fourth ionization energy of titanium.
2. (a) Why does Li have a larger first ionization energy than Na?

(b) The difference between the third and fourth ionization energies of scandium is much larger than the difference between the third and fourth of titanium. Why?

(c) Why does Li have a much larger second ionization energy than Be?

1. (a) What is the trend in first ionization energies as one proceeds down the group 17 elements?

(b) What is the trend in first ionization energies as one move across the fourth period from K to Kr?

1. Choose which has the larger first ionization energy. In each case use electron configuration and effective nuclear charge to explain your answer:
2. Rb, Mo
3. N, P
4. Ga, Cl
5. Pb, Rn
6. The first ionization energy and electron affinity of Ar are both positive values. Explain.