

Recitation #12
CH 151, Fall 2011, Dr. Schmidt
11/14/11

- 1)
 - a. Draw and label a complete orbital energy level diagram for the ground state electron configuration of Se.
 - b. Starting with the lowest in energy and counting up (aufbau order), give acceptable quantum numbers for the 6th, 11th, 27th, 31st, and 34th electrons.
 - c. Give the long version of the electron configuration.
 - d. Give the short version of the electron configuration.
 - e. Predict the favored oxidation states.
- 2) Order the following from highest to lowest.
 - a. Atomic radius: Cl, Cs, Ga, N, F
 - b. Ionic radius: N³⁻, N⁵⁺, N³⁺, N¹⁻, N⁰, N¹⁺
 - c. Ionic radius: Br¹⁻, Rb¹⁺, In³⁺, As³⁻
 - d. Ionization energy: P, S, Cl, Ar, Rb, Si
- 3) Using the Born-Haber Cycle show the calculation of the lattice enthalpy for magnesium oxide. Label all of the steps in the cycle.