**Honors Final Exam Review**

**Worksheet 14**

1. For each of the following substances, what is the dissociation factor (“*i”* in your colligative properties problems) (Ch. 13): NaCl, AlCl3, C6H12O6, (NH4)2CO3
2. Calculate the boiling point for 500 ml of an aqueous solution containing 153 grams of a nonelectrolyte with a molecular weight of 125 g/mol. (Ch. 12) **(101.25oC )**
3. Calculate the energy change when 125 grams of water changes from -35⁰ to 85⁰C. (Ch. 12) **(95,142 J)**
4. Draw Lewis structures for the following molecules: NCl3, Cl2O, C3H8, then indicate the electron arrangement, shape, bond angle and polarity of each molecule. (Ch. 10)
5. For each of the following pairs, which of the following has the greatest electron affinity? Mg or Si; Mg or Ca, Os or Hf, Ar or Xe (Ch. 9)
6. If a solution has a concentration of 9.5%, how many grams would you have in 10L of solution (assume the solution has the same density as water)? (Ch. 13) **(950 g)**
7. How many ½ filled orbitals in each of the following elements: iron, cesium, selenium, molybdenum. (Ch. 9)
8. What does temperature measure? (Ch. 11)
9. Why is a hydrogen bond stronger than a “normal” dipole-dipole” bond? (Ch. 12)
10. Two solutions are prepared with equal concentrations, however when the boiling points of these solutions are compared, solution A’s boiling point is 3X greater than solution B. How might this occur? (Ch. 12)