**![C:\Documents and Settings\toukonen\Local Settings\Temporary Internet Files\Content.IE5\CKIK37JI\MCSY01853_0000[1].wmf]()![C:\Documents and Settings\toukonen\Local Settings\Temporary Internet Files\Content.IE5\VQ3BI0MW\MCSY01847_0000[1].wmf]()Honors Final Exam Review**

**Worksheet 17**

1. Which of the following would have the highest melting point? NH3, C3H8, CH3Cl (Ch. 12)
2. If I burn 22.0 grams of propane (C3H8) in a bomb calorimeter containing 3.25 liters of water, what’s the molar heat of combustion of propane if the water temperature rises 88.50 C? (Ch. 11)
**(2.41E6 J/mol)**
3. Calculate the molar mass of a gas, if 272 grams occupies 12.5 L at a pressure of 1.9 atm and a temperature of 33⁰C. (Ch. 11) **(283g/mol)**
4. Calculate the molality of an aqueous solution containing a nonelectrolyte, if the freezing point of the solution is -5.4⁰C. (Ch. 13) **(2.9 m)**
5. Determine the partial pressure of nitrogen collected over water at 30⁰C if the total pressure of the gas mixture is 790 mmHg and the water vapor pressure at 30⁰C is 31.8 mmHg. (Ch. 11**) (758.2 mmHg)**
6. Draw Lewis structures for each of the following molecules, then identify the electron arrangement, shape, bond angles and polarity: Br3 1-, ICl5, XeO4 (Ch. 10)
7. Determine the energy released when an electron moves from level n = 5 to n = 2. What would the wavelength of this light be? (Ch. 9) **(-4.6E-19 J, 4.3E-7 m)**
8. Calculate the volume of water needed to make a 0.75 M solution that contains 88 grams of NaCl. (Ch. 13) **(2.02 L)**
9. The unbalanced reaction, C8H18 + O2 🡪 CO2 + H2O releases 250 kJ of energy. How much energy will be released if 199 grams of octane are burned? (Ch. 12) **(218 kJ)**
10. Determine the pH of a solution with a hydronium concentration of 3.4 X 10-7. Is this solution acidic or basic? (Ch. 14) **(6.5)**