TAKE-HOME QUIZ

Instructions

- Quiz is due on 9/9/15 at 5:15 pm (beginning of class)
- All work must be shown clearly and completely in order to receive full credit.
- Problems requiring calculations must have the following steps included in the solution:
    - Appropriate equations needed to solve the problem.
    - Substitution of given variables into the equation.
    - Solution including proper units and significant figures.
- You may use any resources you wish for this quiz.

Quiz 1
Chemistry 102 Name: _____

TAKE HOME QUIZ
(15 Points)

1. How much water must be added to 50.0 mL of a 12M stock solution of HNO_3 to obtain a 0.100 M HNO_3 solution?

2. An iceberg has a volume of 7655 cubic feet. What is the mass of the ice (in kg) composing the iceberg at 0°C? (density of ice at 0°C = 0.917 g/cm^3

3. The density of a 20.0% solution of ethylene glycol ($C_2H_6O_2$) solution in water is 1.03 g/mL. What is the molarity of this solution?

4. Determine the oxidation number of each underlined element in the substances below:

a) $\underline{Cl}O_3^-$ _____ c) $\underline{Cr}_2O_3$ _____

b) $H\underline{C}_2H_3O_2$ _____ d) $H_3\underline{P}O_4$ _____

5. Write molecular and net ionic equations for each of the following reactions:

   a) Aqueous solutions of copper (II) nitrate and sodium hydroxide.

   b) Aqueous solutions of acetic acid and calcium hydroxide.

6. What mass of lead (II) sulfate can be formed from reaction of 25.0 mL of 0.100 M sodium sulfate and 40.0 mL of 0.200 M lead (II) nitrate solutions?

7. A 0.125-g sample of a monoprotic acid of unknown molar mass is dissolved in water and titrated with 0.1003M NaOH. The equivalence point is reached after adding 20.77 mL of base. What is the molar mass of the unknown acid?