EXERCISE 3

Chem 100

(Due date _____)

10 points

Name_____

(last) (first)

Lecture Section #_____ Instructor _____

A. Molecular Formulas (When calculating molecular masses please use the atomic masses on the periodic chart that was *given* to you in lecture - that is - the one which has all masses rounded to one place after the decimal.)

1. H_3PO_4

   a. Number of H atoms in H_3PO_4 a. _____

   b. Number of P atoms in H_3PO_4 b. _____

   c. Number of O atoms in H_3PO_4 c. _____

   d. Total number of atoms in H_3PO_4 d. _____

   e. Molecular mass (molecular weight) of H_3PO_4 e. _____
   (show work below)

2. Al_2S_3

   a. Number of Al atoms in Al_2S_3 a. _____

   b. Number of S atoms in Al_2S_3 b. _____

   c. Total number of atoms in Al_2S_3 c. _____

   d. Molecular mass (molecular weight) of Al_2S_3 d. _____
   (show work below)

3. $Ba(NO_3)_2$

   a. Number of Ba atoms in $Ba(NO_3)_2$ a. _____

   b. Number of N atoms in $Ba(NO_3)_2$ b. _____

   c. Number of O atoms in $Ba(NO_3)_2$ c. _____

   d. Total number of atoms in $Ba(NO_3)_2$ d. _____

   e. Molecular mass (molecular weight) of $Ba(NO_3)_2$ e. _____
   (show work below)

(over)

B. Tell whether each of the following describes a **solid**, **liquid**, or **gas**.

1. Weak attraction between particles. 1. _____
2. Expands greatly when heated. 2. _____
3. Definite volume but no definite shape. 3. _____
4. No attraction between particles. 4. _____
5. Definite shape and volume. 5. _____
6. Does not flow or diffuse. 6. _____

C. Using your knowledge of the gas laws, complete the following table by writing *increases* or *decreases* in the blanks.

P	V	n	T
constant	decreases		constant
	constant	increases	constant
constant		constant	decreases
increases	constant		constant
decreases		constant	constant