EXERCISE 3
Chem 10
(Due in lab _____)
10 points

Name KEY
(last) (first)

Lab Section #_____ Lab 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. 3

   b. Number of P atoms in H_3PO_4 — b. 1

   c. Number of O atoms in H_3PO_4 — c. 4

   d. Total number of atoms in H_3PO_4 — d. 8

   e. Molecular mass (molecular weight) of H_3PO_4 (show work below) — e. 98.0 amu

2. Al_2S_3

   a. Number of Al atoms in Al_2S_3 — a. 2

   b. Number of S atoms in Al_2S_3 — b. 3

   c. Total number of atoms in Al_2S_3 — c. 5

   d. Molecular mass (molecular weight) of Al_2S_3 (show work below) — d. 150.3 amu

3. $Ba(NO_3)_2$

   a. Number of Ba atoms in $Ba(NO_3)_2$ — a. 1

   b. Number of N atoms in $Ba(NO_3)_2$ — b. 2

   c. Number of O atoms in $Ba(NO_3)_2$ — c. 6

   d. Total number of atoms in $Ba(NO_3)_2$ — d. 9

   e. Molecular mass (molecular weight) of $Ba(NO_3)_2$ (show work below) — e. 261.3 amu

(over)

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

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

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	decreases	constant
increases	constant	increases	constant
constant	decreases	constant	decreases
increases	constant	increases	constant
decreases	increases	constant	constant