**Counting Atoms**

The **symbol** of an element represents one atom of that element.

e.g., Ba = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A **subscript** is a number written at the lower right corner behind the symbol of an element. If there is more than one atom of the element, then a subscript is used to indicate the number of atoms.

e.g., Cl2 = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

A subscript outside a bracket multiples all the elements inside the brackets.

e.g., Ca3(PO4)2 Ca = \_\_\_\_\_\_\_\_ P = \_\_\_\_\_\_\_\_ O = \_\_\_\_\_\_\_\_.

A **coefficient** is a number written in front of a chemical symbol and indicates the number of atoms of that element or number of molecules

e.g., 3C = \_\_\_\_ 2NaSO4 Na= \_\_\_\_\_\_\_ S=\_\_\_\_\_\_\_ O=\_\_\_\_\_\_\_

Examples:

2 H2O : H = \_\_\_\_\_ O =\_\_\_\_\_ Total=\_\_\_\_\_

Na2SO4 : Na =\_\_\_\_\_ S =\_\_\_\_\_ O =\_\_\_\_\_ Total = \_\_\_\_\_

Pb(NO3)2: Pb =\_\_\_\_\_ N =\_\_\_\_\_ O = \_\_\_\_\_ Total= \_\_\_\_\_

Directions for each problem

1) write down the different elements in each compound.

2) write down how many of that particular atom there are

3) how many atoms are there total in the compound.

Examples:

A) MgCl2 Mg – 1 B) 5 ZnSO4 Zn – 5

Cl – 2 3 total S – 5

O – 20 30 total

1) NaOH 2) 4 HNO3 3) MgCl2

4) 4 Li2O 5) 2 NaOH 6) Li2SO4