**It’s always a 4 – step process!** (Write this in your Notebook!)

1. Find the “invisible ones” → if it doesn’t have a subscript, write in a 1.
2. Put **[ ]** around everything after the coefficient.
3. Use your math skill, the distributive property, and work from the inner parentheses out.
4. Add the atoms together.

NOTE: A coefficient multiplies the number of atoms of each element in the formula.

Examples

**2 K2O**

**\_\_2\_\_** molecules of K2O Step 1 2 K2O1

**\_\_4\_\_** K (Potassium) Step 2 2 [K2O1]

**\_\_2\_\_** O (Oxygen) Step 3 2 x K2, 2 x O1

 Step 4 K= 4, O=2, Total atoms = 6

**3 Na2SO4**

\_\_\_\_\_ molecules of Na2SO4

\_\_\_\_\_ Na (Sodium)

\_\_\_\_\_ S (Sulfur)

\_\_\_\_\_O (Oxygen)

**4 Pb(NO3)2**

\_\_\_\_\_ molecules of Pb(NO3)2

\_\_\_\_\_ Pb (Lead)

\_\_\_\_\_ N (Nitrogen)

\_\_\_\_\_O (Oxygen)

**Counting Atoms in formulas Practice**

Directions for each problem

1. Write down the different elements in each compound.

|  |  |
| --- | --- |
| **H** | **2** |
| **O** | **1** |
| Total Atoms | **3** |

1. Write down how many atoms of each element are represented in the formula.
2. Write down how many total atoms are represented in the formula.

EXAMPLE: H2O

**\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_**

1. **) NaOH**

|  |  |
| --- | --- |
| Na |  |
| O |  |
| H |  |
| Total Atoms |  |

How many elements? \_\_\_\_\_

1. ) **MgCl2**

|  |  |
| --- | --- |
|  |  |
|  |  |
| Total Atoms |  |

How many molecules? \_\_\_\_\_

1. ) **Li2SO4**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

Name Li \_\_\_\_\_\_\_\_\_\_

1. ) **NaC2H3O2**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

How many elements? \_\_\_

1. ) **NH4Cl**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

1. ) **4 HNO3**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

How many molecules? \_\_\_\_

7.) **4 Li2O**

|  |  |
| --- | --- |
|  |  |
|  |  |
| Total Atoms |  |

How many elements? \_\_\_\_\_

8.) **3 K2O**

|  |  |
| --- | --- |
|  |  |
|  |  |
| Total Atoms |  |

Name element K \_\_\_\_\_\_\_\_\_\_

9.) **3 Al2O3**

|  |  |
| --- | --- |
|  |  |
|  |  |
| Total Atoms |  |

10.) **5 ZnSO4**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

Name Zn \_\_\_\_\_\_\_\_\_\_\_\_

11.) **4 Mg(OH)2**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

How many molecules? \_\_\_\_

12.) **2 NaOH**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

What is Na? \_\_\_\_\_\_\_\_\_\_\_\_\_

13.) **4 Al2(SO3)3**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

How many molecules? \_\_\_\_\_

14.) **2 (NH4)3PO4**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |

15.) **2 Ca3(PO4)2**

|  |  |
| --- | --- |
|  |  |
|  |  |
|  |  |
| Total Atoms |  |