I. Nomenclature. Fill the following table with the names, formulas and type of compounds.

|  |  |  |
| --- | --- | --- |
| **Name** | **Formula** | **Type** **(IB,IT,IA,M)\*** |
| Strontium carbonate |  |  |
| Boron trifluoride |  |  |
| Ammonium phosphate |  |  |
| Dinitrogen pentoxide |  |  |
| Copper (II) oxide |  |  |
| Tin (IV) oxide |  |  |
| Calcium nitrate |  |  |
| Silver sulfide |  |  |
|  | P2O3 |  |
|  | AlN |  |
|  | NH4Cl |  |
|  | ICl |  |
|  | Fe2(SO3)3 |  |
|  | LiF |  |
|  | SO3 |  |
|  | Cu2O |  |

**\* (IB-Ionic Binary, IT-Ionic Ternary, IA- Ionic Acid, M-Molecular)**

II. Balancing Chemical Equations. Balance the following equations. Write balanced if it is already balanced.

|  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 1. \_\_\_\_ N2 + \_\_\_\_\_H2 🡪 \_\_\_\_ NH3   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. \_\_\_\_\_\_ H2 + \_\_\_\_\_\_ O2 🡪 \_\_\_\_\_\_ H2O   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. **\_\_\_\_ AgNO3 + \_\_\_\_ MgCl2** 🡪 **\_\_\_\_ AgCl + \_\_\_\_ Mg(NO3)2**   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. \_\_\_\_\_CH4 + \_\_\_\_ O2 🡪 \_\_\_\_ CO2 + \_\_\_\_ H2O   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. \_\_\_\_KClO3 🡪 \_\_\_\_KCl + \_\_\_\_ O2   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. \_\_\_\_\_ NaCl + \_\_\_\_\_ F2 🡪 \_\_\_\_\_ NaF + \_\_\_\_ Cl2   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. **\_\_\_\_\_ AlBr3 + \_\_\_\_\_ K2SO4** 🡪 **\_\_\_\_\_ KBr + \_\_\_\_ Al2(SO4)3**   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |
| 1. \_\_\_\_\_\_ C3H8 + \_\_\_\_\_\_O2 🡪 \_\_\_\_\_CO2 + \_\_\_\_\_\_ H2O   Count:   |  |  |  | | --- | --- | --- | | Element | Reactants | Products | |  |  |  | |  |  |  | |  |  |  | |

III. Write the chemical equations below as **word equations**, do the **skeletal equations**, **balance the equation** and give the **type of reaction**.

|  |  |  |
| --- | --- | --- |
|  | Zinc reacts with lead (II) nitrate to yield zinc nitrate and lead | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Aluminum bromide reacts with chlorine to produce aluminum chloride and bromine gas | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Calcium Phosphate and Sodium Chloride are produced when Sodium phosphate reacts with Calcium Chloride | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | When Potassium chlorate is heated, it decomposes into potassium chloride and oxygen gas | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Aluminum reacts with hydrochloric acid to produce aluminum chloride plus hydrogen gas | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Calcium hydroxide reacts with Phosphoric acid to yield calcium phosphate and water | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Hydrogen gas and Nitrogen Monoxide react to produce Water and Nitrogen | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Hydrogen Sulfide decomposes to Hydrogen gas and Sulfur | |
| Word Equation |  |
| Balanced Equation |  |
| Type of Reaction |  |

IV. Complete the **word equation** by filling the names of the **missing products**, then do the skeletal equation, the balanced equation and give the type of reaction.

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Sodium Sulfate + Barium Nitrate 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Copper (II) Chlorate + Zinc 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Manganese + Oxygen 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ **(Note: use Mn+2 in product.)** |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Nickel(III) Sulfide 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Nickel (II) Iodide + Fluorine 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | **Lead (IV) Nitrate + Potassium Iodide** 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Copper + Silver Nitrate 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_  **(Note: use Cu+2 in product)** |
| Balanced Equation |  |
| Type of Reaction |  |

|  |  |  |
| --- | --- | --- |
|  | Word Equation | Chlorine + Barium 🡪\_\_\_\_\_\_\_\_\_\_\_\_\_\_ + \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Balanced Equation |  |
| Type of Reaction |  |