Bonding & Reactions Review

## **Part 1** | For each of the following boxes, fill in the symbol that fits the listed clue:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Alkaline Earth Metal in the 3rd period |  |  | As an ion, it has 18 electrons and a charge of -2  |  |
| Has 3 valence electrons in the 3rd energy level |  |  | The most reactive halogen gas |  |
| Has a mass of 119 when it has 69 neutrons |  |  | Phosphate |  |

## **Part 2** | For each of the combinations, write in the compound formula and name:

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **+** |  | **=** |  |
| **Name** |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **+** |  | **=** |  |
| **Name** |  |

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
|  | **+** |  | **=** | **SnF4** |
| **Name** |  |

## **Part 3** | For each of the example, identify the reaction type, predict the products, and balance the equation

|  |
| --- |
| **1** | Reaction Type:  |
|  |  | **+** |  |  | **🡪** |  |  | **+** |  |  |

|  |
| --- |
| **2** | Reaction Type:  |
|  |  | **+** |  |  | **🡪** |  |  | **+** |  |  |

|  |
| --- |
| **3** | Reaction Type:  |
|  |  | **🡪** |  |  | **+** |  |  |  |

|  |
| --- |
| **4** | Reaction Type:  |
|  |  | **+** |  |  | **🡪** |  |  | **+** |  |  |

## **Part 4** | For each of the problem, use the balanced equations from part 3 and the periodic table to solve

How many moles Magnesium Fluoride are created when 5 moles of Tin (IV) Fluoride are reacted with excess Magnesium? (Reaction 2)

$$5 mol SnF\_{4}×\left(\frac{ }{ }\right)=$$

How many grams of Aluminum Sulfide are needed to produce 3.2 moles of Magnesium Sulfide? (Reaction 1)

$$3.2 mol MgS×\left(\frac{ }{ }\right)×\left(\frac{ }{ }\right)=$$

How many moles of Tin (IV) Fluoride are needed to produce 30 liters of F2 gas? (Reaction 3)

$$30 L F\_{2}×\left(\frac{ }{ }\right)×\left(\frac{ }{ }\right)=$$

How many grams of Aluminum Phosphate are created when 319.4 g of Aluminum Sulfide react? (Reaction 1)

$$319.4 g Al\_{2}S\_{3}×\left(\frac{ }{ }\right)×\left(\frac{ }{ }\right)×\left(\frac{ }{ }\right)=$$

How many atoms of Tin are produced when 30 moles of Tin (IV) Fluoride are reacted with excess Magnesium? (Reaction 2)

$$30 mol SnF\_{4}×\left(\frac{ }{ }\right)×\left(\frac{ }{ }\right)=$$