

## Review Sheet

**Part A:** Balance the following reactions and indicate whether they are *synthesis* or *decomposition* reactions.

- $\text{SO}_3 + \text{H}_2\text{O} \rightarrow \text{H}_2\text{SO}_4$  Type: \_\_\_\_\_
- $\text{H}_2\text{O} \rightarrow \text{H}_2 + \text{O}_2$  Type: \_\_\_\_\_
- $\text{HgO} \rightarrow \text{Hg} + \text{O}_2$  Type: \_\_\_\_\_
- $\text{Al}_2\text{O}_3(\text{s}) \rightarrow \text{Al}(\text{s}) + \text{O}_2(\text{g})$  Type: \_\_\_\_\_
- $\text{P} + \text{O}_2 \rightarrow \text{P}_2\text{O}_5$  Type: \_\_\_\_\_

**Part B:** Predict the products and indicate type (include states):

- $\text{KBr} \rightarrow$  Type: \_\_\_\_\_
- $\text{Li} + \text{Cl}_2 \rightarrow$  Type: \_\_\_\_\_
- $\text{Rb}_2\text{CO}_3 \rightarrow$  Type: \_\_\_\_\_
- $\text{NiO} \rightarrow$  Type: \_\_\_\_\_
- $\text{CO}_2 + \text{H}_2\text{O} \rightarrow$  Type: \_\_\_\_\_

**Part C:** Predict the products, balance, include states, and indicate type.

- Molten sodium is reacted with chlorine gas Type: \_\_\_\_\_
- Calcium is added to water (think of water as HOH) Type: \_\_\_\_\_
- Aluminum chloride decomposes into its elements Type: \_\_\_\_\_
- Potassium and Bromine are reacted Type: \_\_\_\_\_

5. Iodine reacts with hydrogen

Type: \_\_\_\_\_

**Part D:**

Write the molecular equation, the complete ionic equation, and the net ionic equation for each reaction.

1. Aqueous lithium phosphate reacts with aqueous calcium chloride

2. Aqueous potassium chloride reacts with aqueous lead II chlorate

3. Aqueous manganese II nitrate reacts with aqueous sodium sulfide.