Name Class: SCH3U Date

**A. Balance the following chemical equations.**

1. \_\_\_\_ Na +\_\_\_\_ I2 → \_\_\_\_ NaI
2. \_\_\_\_ KClO3 → \_\_\_\_ KCl + \_\_\_\_ O2
3. \_\_\_\_ K3PO4 + \_\_\_\_ HCl → \_\_\_\_ KCl + \_\_\_\_ H3PO4
4. \_\_\_\_ C3H8 + \_\_\_\_ O2 → \_\_\_\_ CO2 + \_\_\_\_ H2O

**B. Write and balance the following chemical equations.**

1. Nitrogen plus hydrogen produce ammonia. (Remember diatomic elements!)
2. Sodium oxide combines with water to form sodium hydroxide.
3. Sodium sulfate reacts with calcium nitrate to produce sodium nitrate and calcium sulfate.

1. Zinc reacts with iron(III) chloride yielding zinc chloride plus iron.

**C. Decomposition and Synthesis Reactions Worksheet**

***Complete each of the following equations, write formulas for and balance the chemical reaction equation.***

**Synthesis Reaction: A + B → AB**

1) Barium oxide + Carbon dioxide →

2) Silver + oxygen →

3) Aluminum oxide + water →

4) Hydrogen + Oxygen →

5) Hydrogen + Nitrogen →

**Decomposition Reaction: AB → A + B**

6) Potassium chlorate →

7) Calcium carbonate →

8) Mercury (II) oxide →

9) Aluminum hydroxide →

10) Copper (I) bromide →