

**Directions:** a) Substitute symbols and formulas for names being sure to denote phases.  
b) Balance each equation.  
c) Identify the type equation as synthesis, decomposition, single replacement, double replacement, or combustion.

1. Aluminum metal reacts with aqueous zinc chloride to produce zinc metal and aqueous aluminum chloride.

Type:

\_\_\_\_\_

2. Iron and sulfur combine and form iron (II) sulfide.

Type:

\_\_\_\_\_

3. Solid diphosphorus pentoxide can be produced from the elements oxygen and phosphorus. (Note: Solid elemental phosphorus contains 4 atoms per molecule; it is written  $P_4$ .)

Type:

\_\_\_\_\_

4. When solid potassium nitrate is heated, it forms solid potassium nitrite and oxygen gas.

Type:

\_\_\_\_\_

5. When hydrogen sulfide gas is passed over solid hot iron (III) hydroxide, it reacts to form solid iron (III) sulfide and water vapor.

Type:

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