

## Equations #2

Name: \_\_\_\_\_

Part 1. Supply the correct coefficients to balance the following reaction equations (assume that all formulas are correct). Then classify each reaction as either synthesis, decomposition, or combustion.

- |  | Type of Reaction |
|--|------------------|
| 1) $\text{H}_2(\text{g}) + \text{P}_4(\text{s}) \rightarrow \text{H}_3\text{P}(\text{s})$                                      | _____            |
| 2) $\text{C}_4\text{H}_8(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$    | _____            |
| 3) $\text{Li}(\text{s}) + \text{Br}_2(\text{l}) \rightarrow \text{LiBr}(\text{s})$   | _____            |
| 4) $\text{KClO}_3(\text{s}) \rightarrow \text{KCl}(\text{s}) + \text{O}_2(\text{g})$   | _____            |
| 5) $\text{C}_7\text{H}_{16}(\text{g}) + \text{O}_2(\text{g}) \rightarrow \text{CO}_2(\text{g}) + \text{H}_2\text{O}(\text{g})$ | _____            |
| 6) $\text{Al}(\text{s}) + \text{Br}_2(\text{l}) \rightarrow \text{AlBr}_3(\text{s})$   | _____            |
| 7) $\text{NaClO}_3(\text{s}) \rightarrow \text{NaCl}(\text{s}) + \text{O}_2(\text{g})$   | _____            |

Part 2. Write the correct formulas for all reactants and products, then supply the necessary coefficients to balance the equations. Then classify each equation according to its reaction type.

8) Magnesium metal reacts with liquid bromine to form liquid magnesium bromide.

9) Liquid pentane ( $\text{C}_5\text{H}_{12}$ ) reacts with oxygen gas to form carbon dioxide gas and liquid water.

10) Solid barium carbonate can be broken down into solid barium oxide and carbon dioxide gas.

11) Hydrogen gas reacts with chlorine gas to produce hydrogen chloride (HCl) gas.

12) Liquid cyclohexene ( $\text{C}_6\text{H}_{12}$ ) will burn in the presence of oxygen gas to form carbon dioxide gas and water vapor.