

Name _____

Writing Reactions

For the following reactions:

- Write the names of the product(s). (1 point)
 - Identify the type of reaction. (1 point): Composition (synthesis) = C; Decomposition = D; Single replacement = SR; Double Replacement = DR; Combustion = CB
 - If the reaction will not occur, just do "a" and "b".**
 - Write the equation with reactants and products (don't forget the phases) (2 points)
 - Balance the equation. (1 point)
- Pay attention to activity table and solubility chart!!!!!!

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|-------------|---|
| RXN type | |
| <u>SR</u> | Ex. Calcium and Cobalt (III) nitrate yield (Calcium Nitrate and Cobalt) $3\text{Ca}_{(s)} + 2\text{Co}(\text{NO}_3)_3_{(aq)} \rightarrow 3\text{Ca}(\text{NO}_3)_2_{(aq)} + 2\text{Co}_{(s)}$ |
| <u>D</u> | 1) Strontium carbonate solid yields a metal oxide and a gas (Strontium oxide and carbon dioxide) $\text{SrCO}_3_{(s)} \rightarrow \text{SrO}_{(s)} + \text{CO}_2_{(g)}$ |
| <u>C</u> | 2) Magnesium and nitrogen yield (Magnesium nitride) $3\text{Mg}_{(s)} + \text{N}_2_{(g)} \rightarrow \text{Mg}_3\text{N}_2_{(s)}$ |
| <u>CB</u> | 3) The complete combustion of liquid octane (C_8H_{18}) (Carbon dioxide and water) $2\text{C}_8\text{H}_{18}_{(l)} + 25\text{O}_2_{(g)} \rightarrow 16\text{CO}_2_{(g)} + 18\text{H}_2\text{O}_{(g)}$ |
| <u>SR</u> | 4) Aluminum fluoride and iodine yield (Aluminum iodide and fluorine) NR |
| <u>DR</u> | 5) Nickel (II) bromide and sodium phosphate yield (Nickel (II) phosphate and sodium bromide) $3\text{NiBr}_2_{(aq)} + 2\text{Na}_3\text{PO}_4_{(aq)} \rightarrow \text{Ni}_3(\text{PO}_4)_2_{(s)} + 6\text{NaBr}_{(aq)}$ |
| <u>C</u> | 6) Iron plus oxygen yields an Iron (III) salt (Iron (III) oxide) $4\text{Fe}_{(s)} + 3\text{O}_2_{(g)} \rightarrow 2\text{Fe}_2\text{O}_3_{(s)}$ |
| <u>DR</u> | 7) Sodium chloride and calcium bromide yield (Sodium bromide and calcium chloride) NR |
| <u>SR</u> | 8) Copper and potassium phosphate yield (copper (II)) (Copper (II) phosphate and potassium) NR |
| <u>SR</u> | 9) Calcium and mercury (I) nitrate yields (Calcium nitrate and mercury) $\text{Ca}_{(s)} + 2\text{HgNO}_3_{(aq)} \rightarrow \text{Ca}(\text{NO}_3)_2_{(aq)} + 2\text{Hg}_{(l)}$ |
| <u>D</u> | 10) Water is broken into elements at 25°C (Hydrogen and oxygen) $2\text{H}_2\text{O}_{(l)} \rightarrow 2\text{H}_2_{(g)} + \text{O}_2_{(g)}$ |
| <u>CB</u> | 11) The complete combustion of propane gas (C_3H_8) (Carbon dioxide and water) $\text{C}_3\text{H}_8_{(g)} + 5\text{O}_2_{(g)} \rightarrow 3\text{CO}_2_{(g)} + 4\text{H}_2\text{O}_{(g)}$ |