

Balancing Chemical Equations (handout #1) name: \_\_\_\_\_

Balance perfectly, name the type of reaction (Synth, Decomp, SR, DR, or Comb.)

Page 1	Type of Reaction
$2\text{H}_{2(\text{G})} + \text{O}_{2(\text{G})} \rightarrow 2\text{H}_2\text{O}_{(\text{G})}$	Synth
$\text{Sr}(\text{OH})_{2(\text{AQ})} + \text{Li}_2\text{CrO}_{4(\text{AQ})} \rightarrow \text{SrCrO}_{4(\text{S})} + 2\text{LiOH}_{(\text{AQ})}$	DR
$3\text{ZnBr}_{2(\text{AQ})} + 2\text{Al}_{(\text{S})} \rightarrow 2\text{AlBr}_{3(\text{AQ})} + 3\text{Zn}_{(\text{S})}$	SR
$4\text{C}_{(\text{S})} + \text{S}_{8(\text{S})} \rightarrow 4\text{CS}_{2(\text{S})}$	Synth
$3\text{K}_{(\text{S})} + \text{Ni}(\text{C}_2\text{H}_3\text{O}_2)_{3(\text{AQ})} \rightarrow 3\text{KC}_2\text{H}_3\text{O}_{2(\text{AQ})} + \text{Ni}_{(\text{S})}$	SR
$2\text{N}_{2(\text{G})} + 5\text{O}_{2(\text{G})} \rightarrow 2\text{N}_2\text{O}_{5(\text{G})}$	Synth
$2\text{P}_{(\text{S})} + 5\text{Cl}_{2(\text{G})} \rightarrow 2\text{PCl}_{5(\text{S})}$	Synth
$\text{Pb}(\text{NO}_3)_{2(\text{AQ})} + 2\text{LiCl}_{(\text{AQ})} \rightarrow \text{PbCl}_{2(\text{S})} + 2\text{LiNO}_{3(\text{AQ})}$	DR
$16\text{Al}_{(\text{S})} + 3\text{S}_{8(\text{S})} \rightarrow 8\text{Al}_2\text{S}_{3(\text{S})}$	Synth
$2\text{H}_2\text{O}_{(\text{L})} \rightarrow 2\text{H}_{2(\text{G})} + \text{O}_{2(\text{G})}$	Decomp
$\text{Mg}_{(\text{S})} + \text{Cl}_{2(\text{G})} \rightarrow \text{MgCl}_{2(\text{S})}$	Synth
$\text{C}_{15}\text{H}_{32(\text{S})} + 23\text{O}_{2(\text{G})} \rightarrow 15\text{CO}_{2(\text{G})} + 16\text{H}_2\text{O}_{(\text{G})}$	Combustion
$2\text{C}_6\text{H}_6_{(\text{G})} + 15\text{O}_{2(\text{G})} \rightarrow 12\text{CO}_{2(\text{G})} + 6\text{H}_2\text{O}_{(\text{G})}$	Combustion
$\text{N}_{2(\text{G})} + 3\text{H}_{2(\text{G})} \rightarrow 2\text{NH}_{3(\text{G})}$	Synth

Page 2 ANSWERS	Type of Reaction
$3\text{Li}_{(s)} + \text{TiCl}_{3(AQ)} \rightarrow 3\text{LiCl}_{(AQ)} + \text{Ti}_{(s)}$	SR
$2\text{C}_2\text{H}_{6(G)} + 7\text{O}_{2(G)} \rightarrow 4\text{CO}_{2(G)} + 6\text{H}_2\text{O}_{(G)}$	Comb
$3\text{Rb}_{(s)} + \text{P}_{(s)} \rightarrow \text{Rb}_3\text{P}_{(s)}$	Synth
$\text{CH}_{4(G)} + 2\text{O}_{2(G)} \rightarrow \text{CO}_{2(G)} + 2\text{H}_2\text{O}_{(G)}$	Comb
$2\text{Na}_{(s)} + \text{I}_{2(s)} \rightarrow 2\text{NaI}_{(s)}$	Synth
$16\text{Rb}_{(s)} + \text{S}_{8(s)} \rightarrow 8\text{Rb}_2\text{S}_{(s)}$	Synth
$2\text{Al}(\text{HCO}_3)_{3(AQ)} + 3\text{CaCrO}_{4(AQ)} \rightarrow \text{Al}_2(\text{CrO}_4)_{3(s)} + 3\text{Ca}(\text{HCO}_3)_{2(AQ)}$	DR
$4\text{Li}_{(s)} + \text{SnCl}_{4(AQ)} \rightarrow 4\text{LiCl}_{(AQ)} + \text{Sn}_{(s)}$	SR
$2\text{NH}_3(G) \rightarrow \text{N}_{2(G)} + 3\text{H}_{2(G)}$	Decomp
$6\text{Cs}_{(s)} + \text{N}_{2(G)} \rightarrow 2\text{Cs}_3\text{N}_{(s)}$	Synth
$\text{CaCO}_{3(s)} \rightarrow \text{CaO}_{(s)} + \text{CO}_{2(G)}$	Decomp
$2\text{C}_{10}\text{H}_{22(s)} + 31\text{O}_{2(G)} \rightarrow 20\text{CO}_{2(G)} + 22\text{H}_2\text{O}_{(G)}$	Comb
$2\text{Mn}_{(s)} + 7\text{ZnSO}_{4(AQ)} \rightarrow \text{Mn}_2(\text{SO}_4)_{7(AQ)} + 7\text{Zn}_{(s)}$	SR
$\text{C}_3\text{H}_{8(G)} + 5\text{O}_{2(G)} \rightarrow 3\text{CO}_{2(G)} + 4\text{H}_2\text{O}_{(G)}$	Comb