Name: ANSWERS Date: _____

SNC 2DI **Chemical Reactions Review**

Using your notes complete the Summary chart below:

Type of Reaction	Definition in words	General Equation
Synthesis	2 or more elements or compounds form one compound	A + B → AB
Decomposition	1 compound breaks into 2 or more elements or compounds	AB → A + B
Single Displacement	A metal bumps out A metal in a compound OR a non-metal bumps out a non-metal	AB + C → CB + A
Double Displacement	Cations replace one another to make 2 new compounds	AB + CD → CB + AD

Colours: A = Red, B = Blue, C = Green, D = Yellow

Use coloured pencils to circle the common atoms or compounds in each equation to help you determine the type or reaction it illustrates. Use the code below to classify each reaction.

S = Synthesis **D = Decomposition** **SD = Single Displacement** **DD = Double Displacement**

S $P + O_2 \rightarrow P_4O_{10}$

D $HgO \rightarrow Hg + O_2$

SD $Cl_2 + NaBr \rightarrow NaCl + Br_2$

S $Na + Br_2 \rightarrow NaBr$

SD $HgO + Cl_2 \rightarrow HgCl + O_2$

D $KClO_3 \rightarrow KCl + O_2$

DD $BaCl_2 + Na_2SO_4 \rightarrow NaCl + BaSO_4$

SD $Pb + H_2SO_4 \rightarrow PbSO_4 + H_2$

S $Mg + O_2 \rightarrow MgO$

D $Al_2O_3 \rightarrow Al + O_2$

S $H_2 + N_2 \rightarrow NH_3$

DD $CuCl_2 + H_2S \rightarrow CuS + HCl$

S $C + H_2 \rightarrow CH_4$

S $S_8 + F_2 \rightarrow SF_6$

DD $NaOH + HCl \rightarrow NaCl + H_2O$

D $N_2O_4 \rightarrow NO_2 + NO_2$

SNC 2DI **Single and Double Displacement Reactions Practice**

Complete each equation by

I) Writing the correct products
II) Balance the equation if necessary
III) Identify if the reaction is a single displacement OR double displacement

1. $BaO_{(s)} + Mg_{(s)} \rightarrow$ $MgO_{(s)} + Ba_{(s)}$

   Balanced Equation: $BaO_{(s)} + Mg_{(s)} \rightarrow MgO_{(s)} + Ba_{(s)}$

   Type of Reaction: SD

2. $Ca(OH)_{2(aq)} + HCl_{(aq)} \rightarrow$ $CaCl_{2(aq)} + H_2O_{(l)}$

   Balanced Equation: $Ca(OH)_{2(aq)} + 2HCl_{(aq)} \rightarrow CaCl_{2(aq)} + 2H_2O_{(l)}$

   Type of Reaction: DD

3. $MgCl_{2(aq)} + Sr_{(s)} \rightarrow$ $SrCl_{2(s)} + Mg_{(s)}$

   Balanced Equation: $MgCl_{2(aq)} + Sr_{(s)} \rightarrow Mg_{(s)} + SrCl_{2(s)}$

   Type of Reaction: SD

4. $Ca_{(s)} + H_2O_{(l)} \rightarrow$ $Ca(OH)_{2(aq)} + H_{2(g)}$

   Balanced Equation: $Ca_{(s)} + 2H_2O_{(l)} \rightarrow Ca(OH)_{2(aq)} + H_{2(g)}$

   Type of Reaction: SD

5. $NaOH_{(aq)} + HBr_{(aq)} \rightarrow$ $NaBr_{(aq)} + H_2O_{(l)}$

   Balanced Equation: $NaOH_{(aq)} + HBr_{(aq)} \rightarrow NaBr_{(aq)} + H_2O_{(l)}$

   Type of Reaction: DD

6. $KOH_{(aq)} + H_2SO_{4(aq)} \rightarrow$ $K_2SO_{4(aq)} + H_2O_{(l)}$

   Balanced Equation: $2KOH_{(aq)} + H_2SO_{4(aq)} \rightarrow K_2SO_{4(aq)} + 2H_2O_{(l)}$

   Type of Reaction: DD

7. $Ag_2SO_{4(s)} + Cu(NO_3)_{2(aq)} \rightarrow$ $AgNO_{3(aq)} + CuSO_{4(s)}$

   Balanced Equation: $Ag_2SO_{4(s)} + Cu(NO_3)_{2(aq)} \rightarrow 2AgNO_{3(aq)} + CuSO_{4(s)}$

   Type of Reaction: DD