Chem I

Name _____

Date _____ Per _____

Worksheet # C32: Classifying Chemical Reactions (pgs 256-264)

Balance and **classify** the following reactions using the following reaction types:

double displacement, combustion, synthesis, decomposition, or single displacement

1) 2 $AgNO_3(aq)$ + ___ $CaCl_2(aq)$ ----> 2 AgCl(s) + ___ $Ca(NO_3)_2(aq)$ — double displacement (reaction type)

2) 2 Na(s) + 2 $H_2O(l)$ -----> 2 NaOH(aq) + ___ $H_2(g)$ — single displacement

3) ___ $NH_4NO_3(s)$ ----> ___ $N_2O(g)$ + 2 $H_2O(l)$ — decomposition

4) 2 CuO(s) ----> 2 Cu(s) + ____ $O_2(g)$ — decomposition

5) ___ Cu(s) + 2 $AgNO_3(aq)$ ----> 2 Ag(s) + ___ $Cu(NO_3)_2(aq)$ — single displacement

6) 2 HCl(aq) + ___ Zn(s) ----> ___ $H_2(g)$ + ___ $ZnCl_2(aq)$ — single displacement

7) ___ $N_2(g)$ + 3 $H_2(g)$ ----> 2 $NH_3(g)$ — synthesis

8) ___ $AgNO_3(aq)$ + ___ HCl(aq) ---> ___ $HNO_3(aq)$ + ___ AgCl(s) — double displacement

9) 16 Cu(s) + ____ $S_8(s)$ ----> 8 $Cu_2S(s)$ — synthesis

10) 2 $NaNO_3(s)$ ----> 2 $NaNO_2(s)$ + ____ $O_2(g)$ — decomposition

11) 2 NaCl (s) + ___ $Br_2(l)$ ----> 2 NaBr (s) + ____ $Cl_2(g)$ — single displacement

12) __ $Na_2SO_4(aq)$ + __ $Pb(NO_3)_2(aq)$ ---> __ $PbSO_4(s)$ + 2 $NaNO_3(aq)$ — double displacement

13) 2 $AgNO_3(aq)$ + ___ Fe(s) ----> ___ $Fe(NO_3)_2(aq)$ + 2 ___ Ag(s) — single displacement

14) 2 KOH(aq) + ___ $ZnCl_2(aq)$ ----> ___ $Zn(OH)_2(s)$ + 2 ___ KCl(aq) — double displacement

15) ___ $CH_4(g)$ + 2 $O_2(g)$ ----> ____ $CO_2(g)$ + 2 $H_2O(g)$ — combustion