NAME_____ DATE_____ HOUR_____

Predicting Products

Directions: Begin by classifying each reaction as one of the five types of reactions and listing the type of reaction on the line provided. Predict the products of each reaction based on the reactants involved. Lastly, be sure each equation is balanced.

1. DR potassium phosphate + calcium nitrate →

$2K_3PO_4 + 3Ca(NO_3)_2 \rightarrow 6KNO_3 + Ca_3(PO_4)_2$

2. C acetylene (C_2H_2) + oxygen →

$2C_2H_2 + 5O_2 \rightarrow 4CO_2 + 2H_2O$

3. DR hydrochloric acid + aluminum oxide →

$6HCl + Al_2O_3 \rightarrow 3H_2O + 2AlCl_3$

4. D iron (III) oxide →

$2Fe_2O_3 \rightarrow 4Fe + 3O_2$

5. SR zinc + tin (II) chloride →

$Zn + SnCl_2 \rightarrow ZnCl_2 + Sn$

6. S hydrogen + oxygen →

$2H_2 + O_2 \rightarrow 2H_2O$

7. SR fluorine + potassium iodide →

$F_2 + 2KI \rightarrow 2KF + I_2$

8. DR copper (II) nitrate + sodium sulfide →

$Cu(NO_3)_2 + Na_2S \rightarrow CuS + 2NaNO_3$

9. C ethane (C_2H_6) + oxygen →

$2C_2H_6 + 7O_2 \rightarrow 4CO_2 + 6H_2O$

10. S silver + sulfur →

$2Ag + S \rightarrow Ag_2S$

11. D mercury (II) oxide →

$2HgO \rightarrow 2Hg + O_2$

12. SR copper + water → $NR \rightarrow Cu(OH)_2 + H_2$

$Cu + H_2O \rightarrow Cu(OH)_2$ won't balance (doesn't happen)

NAME_____ DATE_____ HOUR_____

Predicting Products Worksheet #2

Directions: Predict the products and balance the following chemical reactions. Indicate the type of reaction in the space provided to the left of each question.

SR 1. copper (II) sulfate + iron →

$CuSO_4 + Fe \rightarrow FeSO_4 + Cu$

S 2. aluminum + oxygen →

$4Al + 3O_2 \rightarrow 2Al_2O_3$

SR 3. Chlorine + magnesium bromide →

$Cl_2 + MgBr_2 \rightarrow MgCl_2 + Br_2$

DR 4. sodium phosphate + barium hydroxide →

$2Na_3PO_4 + 3Ba(OH)_2 \rightarrow Ba_3(PO_4)_2 + 6NaOH$

SR 5. copper + nitric acid →

$Cu + HNO_3 \rightarrow NR$

DR 6. calcium hydroxide + magnesium hydrogen carbonate →

$Ca(OH)_2 + Mg(HCO_3)_2 \rightarrow Ca(HCO_3)_2 + Mg(OH)_2$

DR 7. silicon oxide + calcium carbonate →

$SiO_2 + 2CaCO_3 \rightarrow 2CaO + Si(CO_3)_2$

SR 8. potassium + water →

$2K + 2H_2O \rightarrow 2KOH + H_2$

C 9. $C_{25}H_{52} + O_2$ →

$C_{25}H_{52} + 38O_2 \rightarrow 25CO_2 + 26H_2O$

DR 10. lead (II) nitrate + potassium iodide →

$Pb(NO_3)_2 + 2KI \rightarrow PbI_2 + 2KNO_3$

D 11. calcium oxide →

$2CaO \rightarrow 2Ca + O_2$

DR 12. calcium carbonate + hydrochloric acid →

$CaCO_3 + 2HCl \rightarrow H_2CO_3 + CaCl_2$

SR 13. aluminum + iron (II) oxide →

$2Al + 3FeO \rightarrow Al_2O_3 + 3Fe$

SR 14. Cu + silver nitrate →

$Cu + AgNO_3 \rightarrow CuNO_3 + Ag$ or $Cu + 2AgNO_3 \rightarrow Cu(NO_3)_2 + 2Ag$

D 15. tin (II) chloride →

$SnCl_2 \rightarrow Sn + Cl_2$