Chapter 11 Equation Writing and Balancing Practice #2 Name _____

Complete and balance the following chemical reactions.

1. $NaCl + Pb(NO_3)_2 \longrightarrow$

2. $H_2 + Cl_2 \longrightarrow$

3. $ZnCl_2 + AgNO_3 \longrightarrow$

4. $SO_2 \longrightarrow$

5. $C_2H_6 + O_2 \longrightarrow CO_2 +$ _____

6. $C_2H_6 + O_2 \longrightarrow CO +$ _____

7. Sodium metal reacts with oxygen.

8. Magnesium metal is put into a solution of copper (II) nitrate.

9. Nitrogen tribromide decomposes.

10. Potassium sulfate reacts with lead (II) sulfate.

11. Diphosphorus pentoxide is produced from its elements.

12. Octane (C_8H_{18}) is combusted completely.

13. Calcium metal is placed in water.

State whether each of the following equations represents a synthesis(S), decomposition (D), single replacement (SR), or double replacement (DR) reaction.

_____ 1. $CO_2 \longrightarrow C + O_2$

_____ 2. $NaCl + AgNO_3 \longrightarrow NaNO_3 + AgCl$

_____ 3. $S + Cl_2 \longrightarrow SCl_2$

_____ 4. $BaCl_2 + 2\ NaOH \longrightarrow 2\ NaCl + Ba(OH)_2$

_____ 5. $Zn + CuSO_4 \longrightarrow ZnSO_4 + Cu$

_____ 6. $CH_4 \longrightarrow C + 2\ H_2$

_____ 7. $Pb(NO_3)_2 + Mg \longrightarrow Pb + Mg(NO_3)_2$

_____ 8. $Mg + 2\ HCl \longrightarrow MgCl_2 + H_2$

_____ 9. $H_2SO_4 \longrightarrow H_2 + S + 2\ O_2$

_____ 10. $2\ O_2 + N_2 \longrightarrow N_2O_4$

_____ 11. $3\ CaBr_2 + 2\ Na_3P \longrightarrow Ca_3P_2 + 6\ NaBr$

_____ 12. $2\ KI + Br_2 \longrightarrow 2KBr + I_2$

_____ 13. $C_6H_{12}O_6 \longrightarrow 6\ C + 6\ H_2O$

_____ 14. $2\ NaF \longrightarrow 2\ Na + F_2$

_____ 15. $Si + O_2 \longrightarrow SiO_2$

_____ 16. $2\ NaI + Pb(NO_3)_2 \longrightarrow 2\ NaNO_3 + PbI_2$

_____ 17. $NaI + Cs \longrightarrow CsI + Na$

_____ 18. $H_2 + CO + O_2 \longrightarrow H_2CO_3$

_____ 19. $Li_3PO_4 \longrightarrow 3\ Li + P + 2\ O_2$

_____ 20. $CS_2 + 2\ F_2 \longrightarrow CF_4 + 2\ S$

Choose the words in the list that best complete the paragraphs

Arrow	Chemical equation	Chemical reaction	Coefficient
Combination	Decomposition	Delta (Δ)	Double replacement
Equation	Precipitate	Product	Reactant
Single replacement			

Another name for a chemical change is a(n) ___1___. Such a change can be represented by means of a written statement called a(n) ___2___. The symbol for the word "yields" in such a statement is a(n) ___3___. Any substance written to the left of this symbol is called a(n) ___4___. Any substance written to the right of this symbol is called a(n) ___5___. A number written just to the left of a formula is called a(n) ___6___.

A chemical change in which two or more substances combine to form a more complex substance is called a(n) ___7___ reaction. A change in which a substance is broken down into simpler substances is called a(n) ___8___ reaction. If the change is caused by heat supplied to the reaction, the Greek symbol ___9___ is often written above the "yields" symbol in the equation.

A chemical change in which a free element replaces and releases another element in a compound is called a(n) ___10___ reaction. A chemical change in which there is an exchange of ions between two compounds is called a(n) ___11___ reaction. A solid substance produced by such a reaction in a liquid medium is called a(n) ___12___.

1. _____ 5. _____ 9. _____

2. _____ 6. _____ 10. _____

3. _____ 7. _____ 11. _____

4. _____ 8. _____ 12. _____