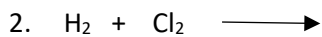
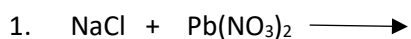


**Chapter 11 Equation Writing and Balancing Practice #2**

Name \_\_\_\_\_

Complete and balance the following chemical reactions.



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 ( $\text{C}_8\text{H}_{18}$ ) 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. $\text{CO}_2 \longrightarrow \text{C} + \text{O}_2$   | _____ 11. $3 \text{CaBr}_2 + 2 \text{Na}_3\text{P} \longrightarrow \text{Ca}_3\text{P}_2 + 6 \text{NaBr}$ |
| _____ 2. $\text{NaCl} + \text{AgNO}_3 \longrightarrow \text{NaNO}_3 + \text{AgCl}$                   | _____ 12. $2 \text{KI} + \text{Br}_2 \longrightarrow 2\text{KBr} + \text{I}_2$                            |
| _____ 3. $\text{S} + \text{Cl}_2 \longrightarrow \text{SCl}_2$                                       | _____ 13. $\text{C}_6\text{H}_{12}\text{O}_6 \longrightarrow 6 \text{C} + 6 \text{H}_2\text{O}$           |
| _____ 4. $\text{BaCl}_2 + 2 \text{NaOH} \longrightarrow 2 \text{NaCl} + \text{Ba}(\text{OH})_2$      | _____ 14. $2 \text{NaF} \longrightarrow 2 \text{Na} + \text{F}_2$   |
| _____ 5. $\text{Zn} + \text{CuSO}_4 \longrightarrow \text{ZnSO}_4 + \text{Cu}$                       | _____ 15. $\text{Si} + \text{O}_2 \longrightarrow \text{SiO}_2$   |
| _____ 6. $\text{CH}_4 \longrightarrow \text{C} + 2 \text{H}_2$                                       | _____ 16. $2 \text{NaI} + \text{Pb}(\text{NO}_3)_2 \longrightarrow 2 \text{NaNO}_3 + \text{PbI}_2$        |
| _____ 7. $\text{Pb}(\text{NO}_3)_2 + \text{Mg} \longrightarrow \text{Pb} + \text{Mg}(\text{NO}_3)_2$ | _____ 17. $\text{NaI} + \text{Cs} \longrightarrow \text{CsI} + \text{Na}$                                 |
| _____ 8. $\text{Mg} + 2 \text{HCl} \longrightarrow \text{MgCl}_2 + \text{H}_2$                       | _____ 18. $\text{H}_2 + \text{CO} + \text{O}_2 \longrightarrow \text{H}_2\text{CO}_3$                     |
| _____ 9. $\text{H}_2\text{SO}_4 \longrightarrow \text{H}_2 + \text{S} + 2 \text{O}_2$                | _____ 19. $\text{Li}_3\text{PO}_4 \longrightarrow 3 \text{Li} + \text{P} + 2 \text{O}_2$                  |
| _____ 10. $2 \text{O}_2 + \text{N}_2 \longrightarrow \text{N}_2\text{O}_4$                           | _____ 20. $\text{CS}_2 + 2 \text{F}_2 \longrightarrow \text{CF}_4 + 2 \text{S}$                           |

Choose the words in the list that best complete the paragraphs

- |                    |                   |                    |                    |
|--------------------|-------------------|--------------------|--------------------|
| Arrow              | Chemical equation | Chemical reaction  | Coefficient        |
| Combination        | Decomposition     | Delta ( $\Delta$ ) | 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. _____ |