

Name \_\_\_\_\_ Period \_\_\_\_\_ Date \_\_\_\_\_

**Practice sheet for test on Chapter 6 Chemical Equations**

- a) balanced equation                      b) skeleton equation                      c) catalyst                      d) coefficients  
 e) reactants                                  f) products                                  g) endothermic                      h) exothermic

- \_\_\_ 1) a substance that speeds up the rate of a reaction  
 \_\_\_ 2) substances that undergo chemical change  
 \_\_\_ 3) new substances formed in a chemical reaction  
 \_\_\_ 4) an equation in which each side has the same number of atoms of each element  
 \_\_\_ 5) a chemical equation that does not indicate the amounts of substances involved  
 \_\_\_ 6) numbers used to balance a chemical equation  
 \_\_\_ 7) a process in which energy is released (energy written on the right side of the equation)  
 \_\_\_ 8) a process in which energy is absorbed (energy written on the left side of the equation)

9) Match the generic reaction type with its correct name

- |     |                                        |                                |
|-----|----------------------------------------|--------------------------------|
| ___ | $A + B \rightarrow AB$                 | a. double replacement reaction |
| ___ | $AB \rightarrow A + B$                 | b. combustion reaction         |
| ___ | $A + BC \rightarrow B + AC$            | c. decomposition reaction      |
| ___ | $AB + CD \rightarrow AD + CB$          | d. combination reaction        |
| ___ | $C_xH_y + O_2 \rightarrow CO_2 + H_2O$ | e. single replacement reaction |

Use the reaction types a – e from problem 7 and assign to definitions 8 – 11

- \_\_\_ 10) reaction in which atoms of one element replace atoms of a second element in a compound  
 \_\_\_ 11) a reaction in which two or more substances combine to form a single substance  
 \_\_\_ 12) reaction of a compound with oxygen to produce energy, carbon dioxide (and water).  
 \_\_\_ 13) reaction in which a single compound is broken down into two or more products  
 \_\_\_ 14) the reactants are generally two ionic compounds in aqueous solution

15) Name the 7 diatomic elements \_\_\_\_\_

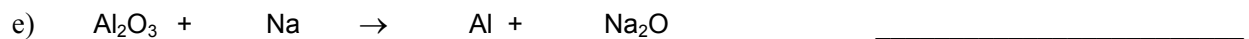
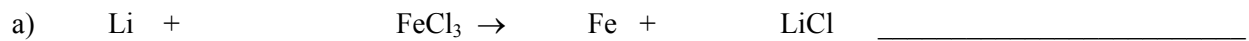
16) In every balanced chemical equation, each side of the equation has the same number of \_\_\_\_\_  
 a) atoms                                  b) molecules                                  c) liters

17) Explain the meaning of the following symbols, which are sometimes written in chemical equations:

- (s) The reactant or product is \_\_\_\_\_                      (l) The reactant or product is \_\_\_\_\_  
 (g) The reactant or product is \_\_\_\_\_                      (aq) The reactant or product is \_\_\_\_\_

 $\Delta$  \_\_\_\_\_ was supplied for the reaction to occur.

18) Balance the following equations (keep polyatomic ions together) and determine the type of reaction





19) Will the following reaction take place spontaneously? (you need the activity series of metals; only if the element is higher up it can replace another element from a compound)



20) Write the balanced equation for the combination reaction that occurs between aluminum and fluorine(diatomic). For the products find the charges of Al and F then criss-cross. Finally balance.

21) Write the balanced equation for the single replacement reaction between hydrochloric acid (HCl) and calcium metal.

22) Write the balanced equation for the combustion of propane ( $\text{C}_3\text{H}_8$ ) with oxygen (diatomic?) to produce carbon dioxide and water.

23) Are the following reactions endothermic or exothermic: (circle correct answer)

