

CHAPTER 8 REVIEW*Chemical Equations and Reactions***SECTION 8-2****SHORT ANSWER** Answer the following questions in the space provided.**1.** Match the equation type on the left to its representation on the right.

- | | |
|--------------------------|-----------------------------------|
| _____ synthesis | (a) $AX + BY \rightarrow AY + BX$ |
| _____ decomposition | (b) $A + BX \rightarrow AX + B$ |
| _____ single replacement | (c) $A + B \rightarrow AX$ |
| _____ double replacement | (d) $AX \rightarrow A + X$ |

2. _____ In the equation $2Al(s) + 3Fe(NO_3)_2(aq) \rightarrow 3Fe(s) + 2Al(NO_3)_3(aq)$, iron has been replaced by _____.

- | | |
|-------------|--------------|
| (a) nitrate | (c) aluminum |
| (b) water | (d) nitrogen |

3. _____ Of the following chemical equations, the only reaction that is both synthesis and combustion is _____.

- (a) $C(s) + O_2(g) \rightarrow CO_2(g)$
 (b) $2C_4H_{10}(l) + 13O_2(g) \rightarrow 8CO_2(g) + 10H_2O(l)$
 (c) $6CO_2(g) + 6H_2O(g) \rightarrow C_6H_{12}O_6(aq) + 6O_2(g)$
 (d) $C_6H_{12}O_6(aq) + 6O_2(g) \rightarrow 6CO_2(aq) + 6H_2O(l)$

4. _____ Of the following chemical equations, the only reaction that is both decomposition and combustion is _____.

- (a) $C(s) + O_2(g) \rightarrow CO_2(g)$
 (b) $2C_4H_{10}(l) + 13O_2(g) \rightarrow 8CO_2(g) + 10H_2O(l)$
 (c) $2H_2O_2(l) \rightarrow 2H_2O(l) + O_2(g)$
 (d) $2HgO(s) \xrightarrow{\Delta} 2Hg(l) + O_2(g)$

5. Identify the products when the following substances decompose:

- _____ a. a binary compound
 _____ b. a metallic hydroxide
 _____ c. a metallic carbonate
 _____ d. the acid H_2SO_3

6. The complete combustion of a hydrocarbon in excess oxygen yields the products _____ and _____.