

CHAPTER 8 REVIEW*Chemical Equations and Reactions***SECTION 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-displacement	(c) $A + B \rightarrow AX$
_____ double-displacement	(d) $AX \rightarrow A + X$

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In the reaction described by the equation $2Al(s) + 3Fe(NO_3)_2(aq) \rightarrow 3Fe(s) + 2Al(NO_3)_3(aq)$, iron has been replaced by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

(a) $S(s) + O_2(g) \rightarrow SO_2(g)$.
 (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. most metal hydroxides
 _____ c. a metal carbonate
 _____ d. the acid H_2SO_3

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