

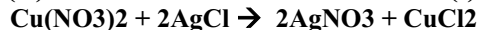
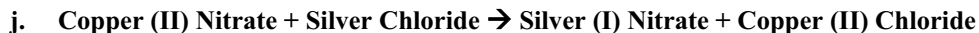
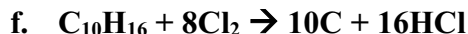
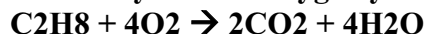
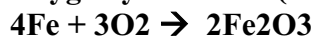
## Chemical Equations (Chapter 9) Test Review

1. How should hydrogen, oxygen, nitrogen, fluorine, chlorine, iodine, and bromine be written when there are represented in elemental form in a chemical equation? Why? *with a "2" subscript (these elements are diatomic in their elemental state)*
2. On the diagram below, identify where the subscript is and where the coefficient is.

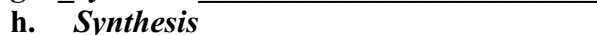
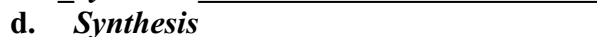
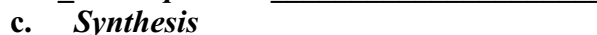


3. How does the law of conservation of mass relate to balancing equations? *the number of atoms cannot be gained or lost, they change form from reactant to product but remain equal*
4. Identify which type of chemical reaction fits the following general equations:
  - a.  $A + X \rightarrow AX$                       Synthesis
  - b.  $AX \rightarrow A + X$                       Decomposition
  - c.  $A + BX \rightarrow B + AX$                 Single Replacement
  - d.  $AX + BY \rightarrow AY + BX$             Double Replacement
  - e.  $AX + O_2 \rightarrow CO_2 + H_2O$         Combustion

5. Balance the following equations, then classify what type of reaction each equation is:



6. Classify the reactions in question #5.

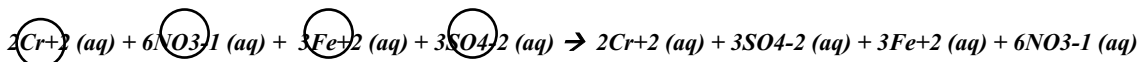
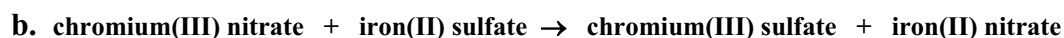
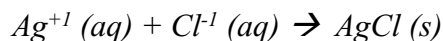
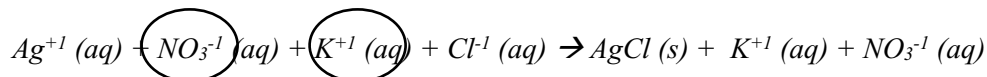
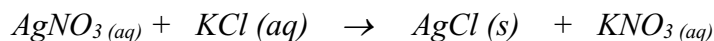
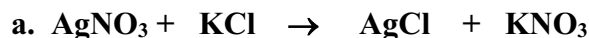


- i. Synthesis \_\_\_\_\_  
 j. Double Replacement \_\_\_\_\_

7. Predict the products for the following reactions. Then balance the equation. (Note: If the reaction is single replacement, consult your activity series to determine if the reaction is possible).

- a.  $K_2CrO_4 + Ba(NO_3)_2 \rightarrow BaCrO_4 + 2KNO_3$   
 b.  $2CaO \rightarrow 2Ca + O_2$   
 c.  $MgI_2 + F_2 \rightarrow MgF_2 + I_2$   
 d.  $4Li + O_2 \rightarrow 2Li_2O$   
 e. Sodium Chloride + Calcium  $\rightarrow NR$

8. Write the balanced chemical equation, complete ionic equation, the net ionic equation, and circle the spectator ions for the following reactions:



No Net Ionic Equation

