

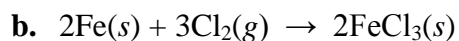
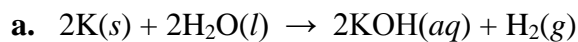
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Chemistry – 8 Textbook Problems

1. Describe the differences between word equations, formula equations, and chemical equations.

2. Write word and formula equations for the reaction in which aqueous solutions of sulfuric acid and sodium hydroxide react to form aqueous sodium sulfate and water.

3. Translate the following chemical equations into sentences:



4. Write the word, formula, and chemical equations for the reaction between hydrogen sulfide gas and oxygen gas that produces sulfur dioxide gas and water vapor.

5. Write the chemical equation for each of the following reactions:

a. ammonium chloride + calcium hydroxide \rightarrow calcium chloride + ammonia + water

b. methane + oxygen \rightarrow carbon dioxide + water

6. List 6 types of chemical reactions.

7. Complete and balance each of the following reactions identified by type:

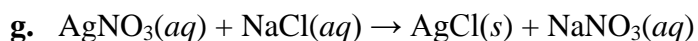
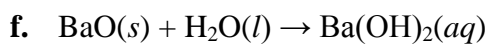
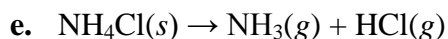
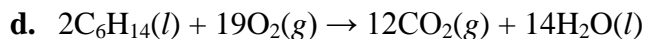
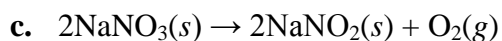
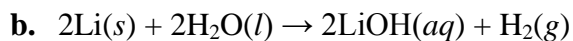
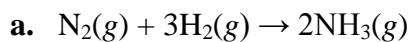
a. acid base: $\text{HCl} + \text{NaOH} \rightarrow$ _____

b. single-replacement _____ $\text{Na} +$ _____ $\text{H}_2\text{O} \rightarrow$ _____

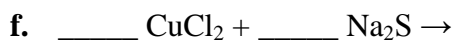
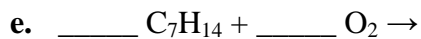
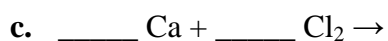
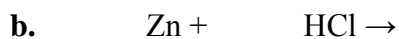
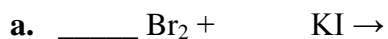
c. double-replacement _____ $\text{HNO}_3 + \text{Ca}(\text{OH})_2 \rightarrow$ _____

d. combustion $\text{C}_5\text{H}_{12} +$ _____ $\text{O}_2 \rightarrow$ _____

8. Classify each of the following reactions as synthesis, decomposition, single-replacement, double-replacement, or combustion.

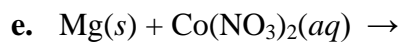
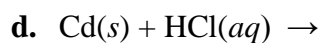
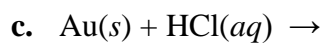
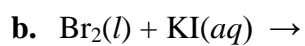
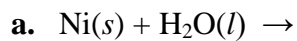


9. Complete and balance each of the following equations, and identify each by type.



10. How is the activity series useful in predicting chemical behavior?

11. Based on the activity series, predict whether each of the following possible reactions listed will occur (yes or no):



12. Write the balanced chemical equation for each of the reactions that **occur** in problem #2.