

Name \_\_\_\_\_

Section \_\_\_\_\_

**Stoichiometry Workshop – Show all work!**

1. Using chemical symbols write and balance the molecular equations in standard form (lowest integers). **Include phases for all equations.**
  - a) solid iron(III) oxide and aluminum metal react to form iron metal and solid aluminum oxide
  - b) solid calcium fluoride reacts with liquid sulfuric acid to form solid calcium sulfate and hydrogen fluoride gas
2. You react 10.0 g of hydrogen gas with 60.0 g of oxygen gas to form water. Determine the amount of water formed and the amount of reactant in excess (both in grams) after the reaction is complete.

Section

3. Consider mixing an excess of lead(II) nitrate (*aq*) with 200.0 mL of 0.400 *M* sodium chloride. Determine the mass of solid formed, assuming a complete reaction.
4. What volume (in mL) of 0.800 *M* lead(II) nitrate must you add to make sure you make the mass of product you calculated in problem 3?
5. A 0.1044 g sample of the salt MCl was dissolved in water (making it in the aqueous phase). An excess of AgNO<sub>3</sub> (*aq*) was added, precipitating 0.0889 g AgCl. What is the identity of M?