

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. Show a BCA table for this problem.

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? As part of your answer, show the balanced reaction between MCl and AgNO<sub>3</sub> to form AgCl.