Exercise 8–1: Using the activity series, predict and balance the following single replacement reactions. Use abbreviations to indicate the appropriate phase of reactants and products where possible. *Note:* Not all of the reactions will occur. For those that do not, write "no reaction."

1. A piece of copper is dropped into a container of water.

2. Liquid bromine is added to a container of sodium iodide crystals.

3. An aluminum strip is immersed in a solution of silver nitrate.

4. Zinc pellets are added to a sulfuric acid solution.

5. Fluorine gas is bubbled into a solution of aluminum chloride.

6. Magnesium turnings are added to a solution of lead(II) acetate.

7. Iodine crystals are added to a solution of sodium chloride.

8. Calcium metal is added to a solution of nitrous acid.

9. A pea-sized piece of lithium is added to water.

10. A solution of iron(III) chloride is poured over a piece of platinum wire.

Note: On the AP reaction prediction section, all reactions "work"; in other words there will be no "No reactions" on the AP Exam.