

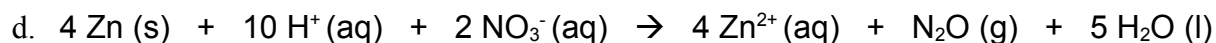
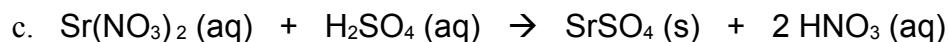
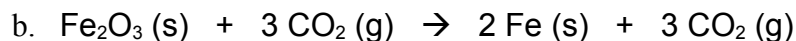
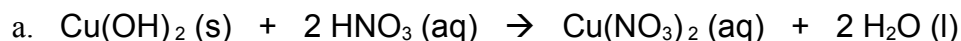
AP Chemistry: Oxidation-Reduction Reactions

For each problem below, write the equation and show your work. Always use units and box in your final answer.

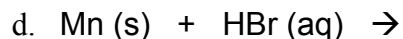
1. Determine the oxidation number for the indicated element in each of the following substances:



2. Which of the following reactions are redox reactions? For those that are, indicate which element is oxidized and which one is reduced. For those that are not, indicate whether they are precipitation or acid-base reactions.



3. Based on the activity series (Table 4.5); what is the outcome of each of the following reactions?



4. Using the activity series (Table 4.5), write the balanced chemical equations for the following reactions. If no reaction occurs, simply write NR.

a. Zinc metal is added to a solution of silver nitrate.

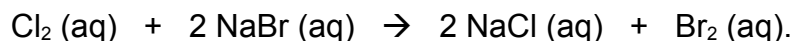
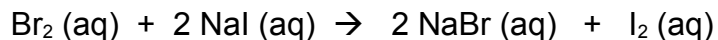
b. Iron metal is added to a solution of aluminum sulfate.

c. Hydrochloric acid is added to cobalt metal.

d. Hydrogen gas is bubbled through an aqueous solution of FeCl_2 .

e. Lithium metal is added to water.

5a. Use the following reactions to prepare an activity series for the halogens:



b. Relate the positions of the halogens in the periodic table with their locations in this activity series.

c. Predict whether a reaction occurs when the following reagents are mixed:

