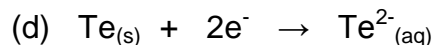
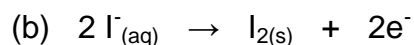
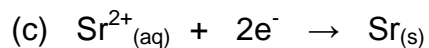
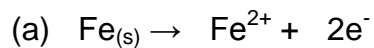
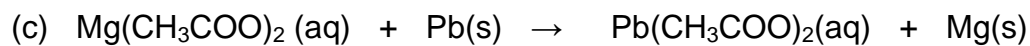
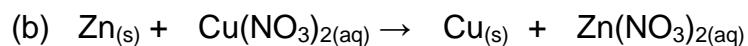
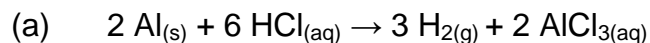


1. Classify each half-reaction as oxidation or reduction.



2. Write the total ionic, and net ionic equations for:



3. For each net ionic equation from #2 above:

- write the half reactions

- identify the oxidizing agent and the reducing agent

a) oxidation:

reduction:

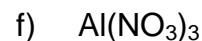
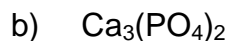
b) oxidation:

reduction:

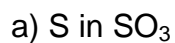
c) oxidation:

reduction:

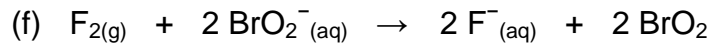
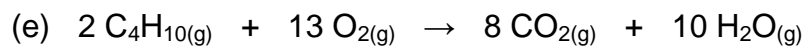
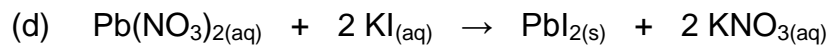
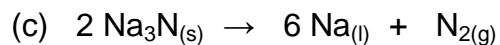
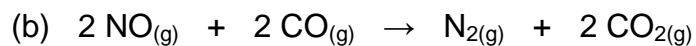
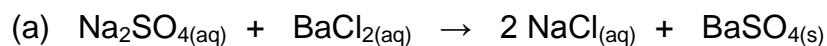
4. Determine the oxidation number for each element in the following:



5. Determine the oxidation number of:



6. For each reaction, assign oxidation numbers to the elements to determine whether the reaction is a redox reaction. (*fractions are possible for Ox. #'s*)



7. For each of the redox reactions in #6 above, identify the OA and the RA.