Balancing Redox Eqns

Rules: For acidic & basic solns

1. Write separate eqns for oxidation & reduction half-rxns. *Only write down atoms involved in half-rxn.*

2. For each half rxn,
   - Balance all elements *except* H & O
   - Balance O w/ H₂O
   - Balance H w/ H⁺
   - Balance charge w/ e⁻

3. If necessary, *multiply* one or both balanced half-rxns by an integer so that the # e⁻ *xfer’d* is equal in two half-rxns.

4. Add half-rxns & cancel identical species.

5. If *acidic* soln, go to #8. If *basic* soln, go to #6.

6. Add same # −OH ions as H⁺ ions to both sides of eqn.

7. *Form H₂O* on side w/ both −OH & H⁺, eliminate H₂O’s that appear on both sides.

8. Check that elements & charge balance.