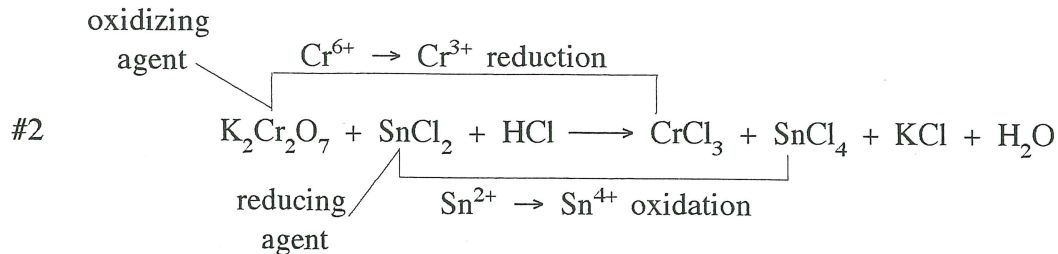


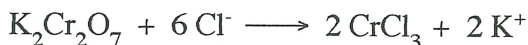
Solution to Redox Equations



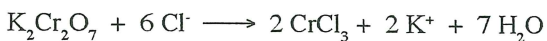
reduction half-reaction;



1. Balance for atoms other than O & H;



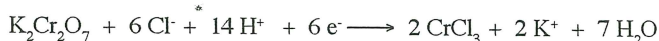
2. Balance O with H_2O ;



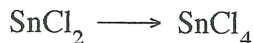
3. Balance H with H^+ ;



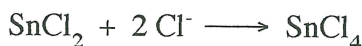
4. Balance charge with e^- ;



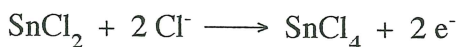
oxidation half-reaction;



1. Balance for atoms other than O & H;



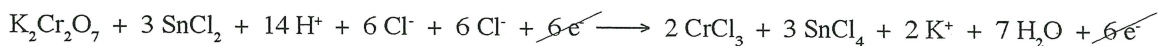
4. Balance charge with e^- ;



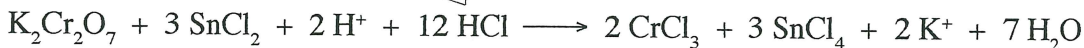
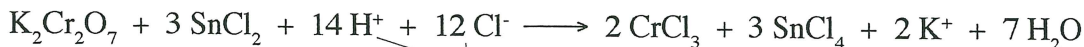
$\times 3$ to balance charge from reduction reaction;



Combine both half-reactions and cancel

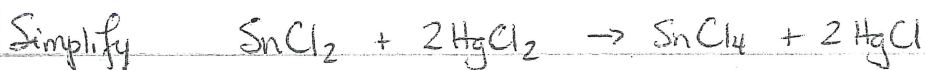
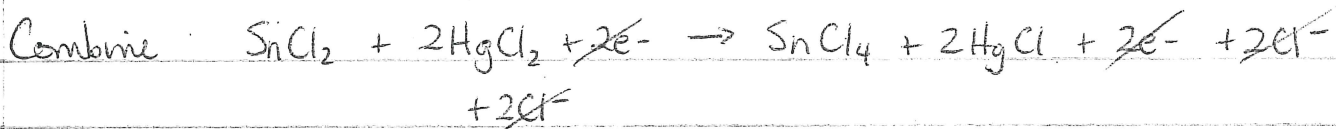
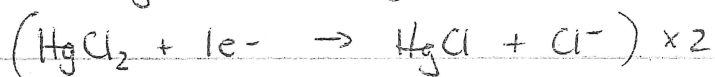
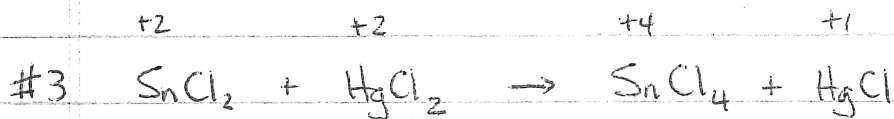


Simplify;

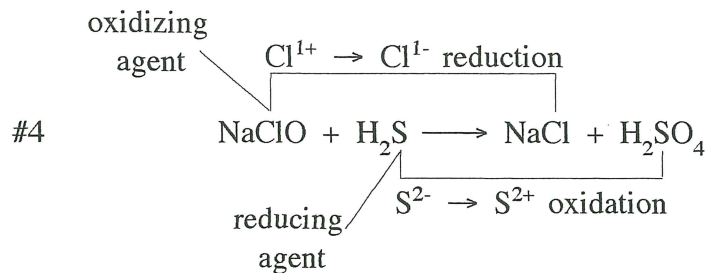


replace the two missing chloride ions to balance the remaining 2H^+ and 2K^+ ;

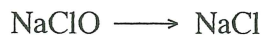




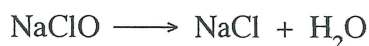
Solution to Redox Equations



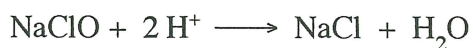
reduction half-reaction;



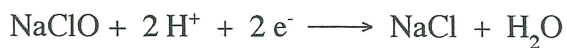
2. Balance O with H_2O ;



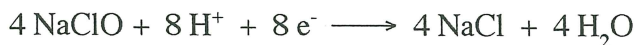
3. Balance H with H^+ ;



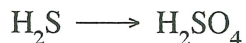
4. Balance charge with e^- ;



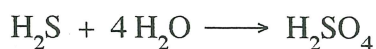
$\times 4$ to balance the e^- for both half-reactions



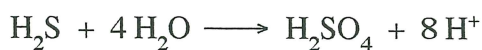
oxidation half-reaction;



2. Balance O with H_2O ;



3. Balance H with H^+ ;



4. Balance charge with e^- ;



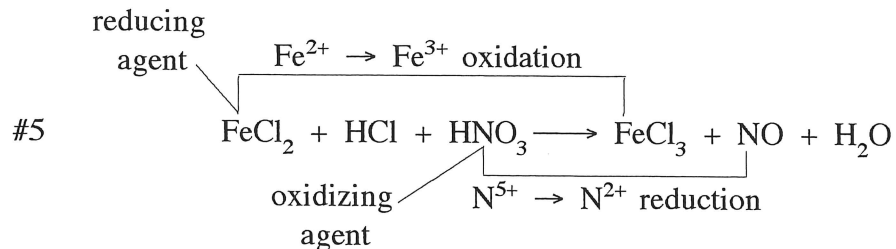
Combine both half-reactions and cancel



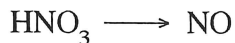
Simplify and double check;



Solution to Redox Equations



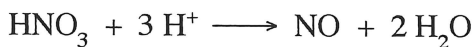
reduction half-reaction;



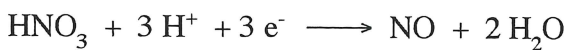
2. Balance O with H_2O ;



3. Balance H with H^+ ;



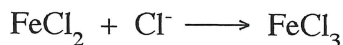
4. Balance charge with e^- ;



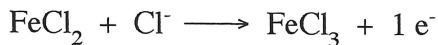
oxidation half-reaction;



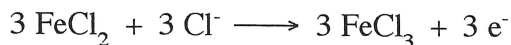
1. Balance for atoms other than O & H;



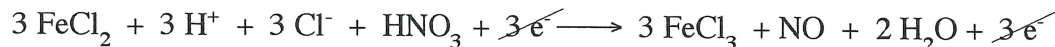
4. Balance charge with e^- ;



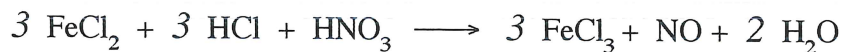
$\times 3$ to balance charge from reduction reaction;



Combine both half-reactions and cancel

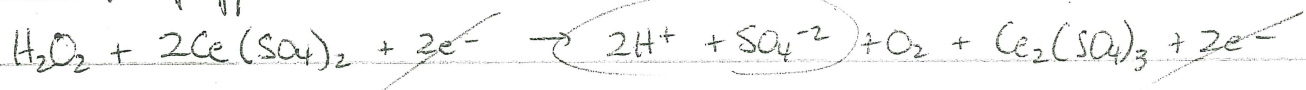


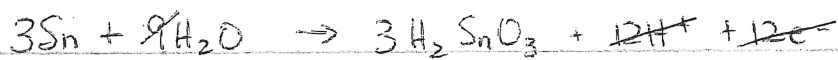
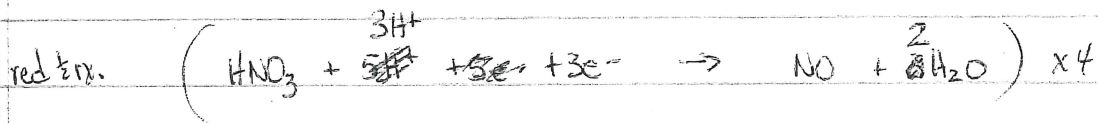
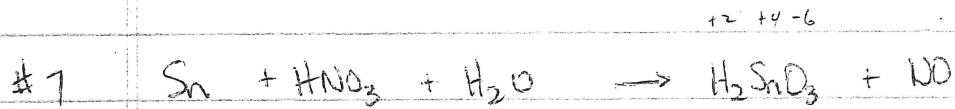
Simplify and double check;





Combine & Simplify





Combine.





Combine

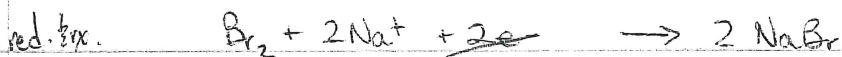


ox. $\frac{1}{2}$ rx.

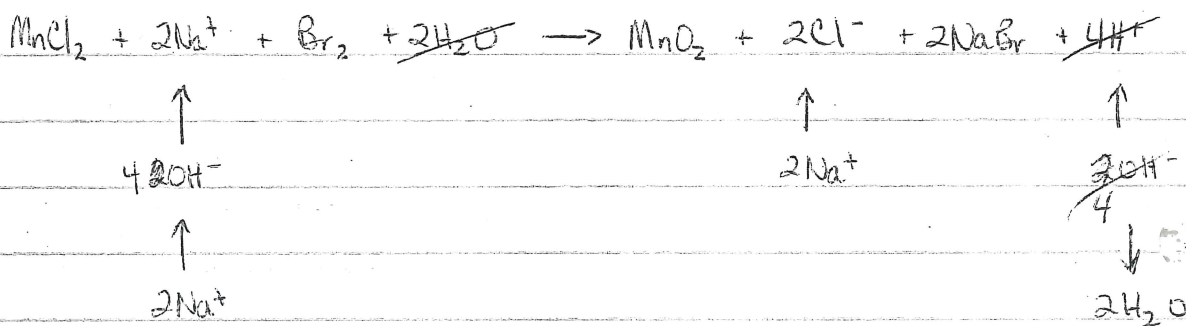


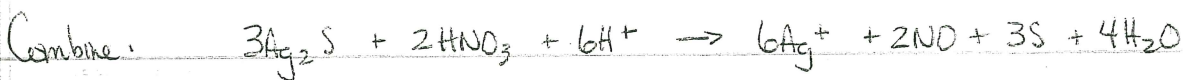
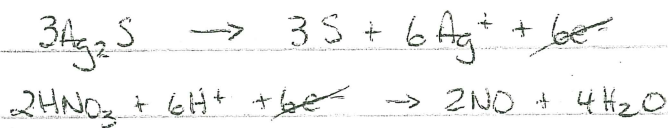
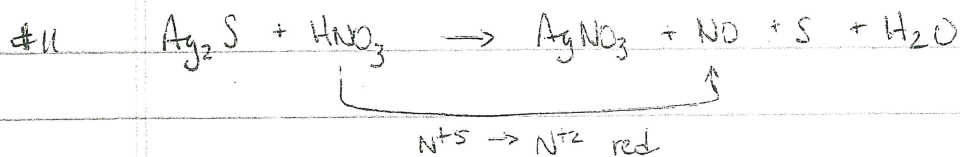
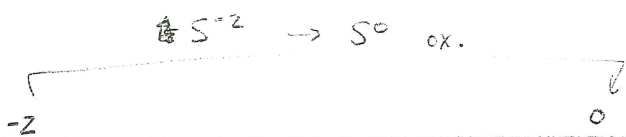


red.

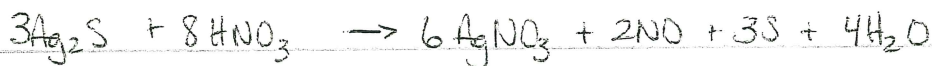


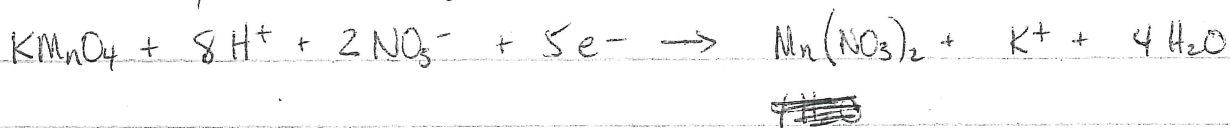
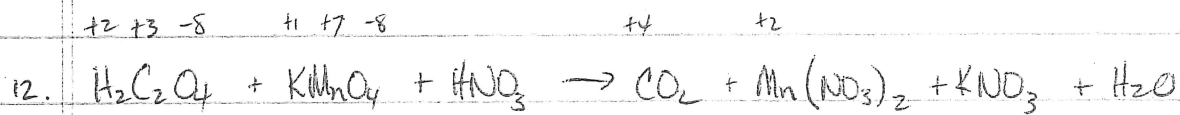
Combine





Replace missing ions from original equation

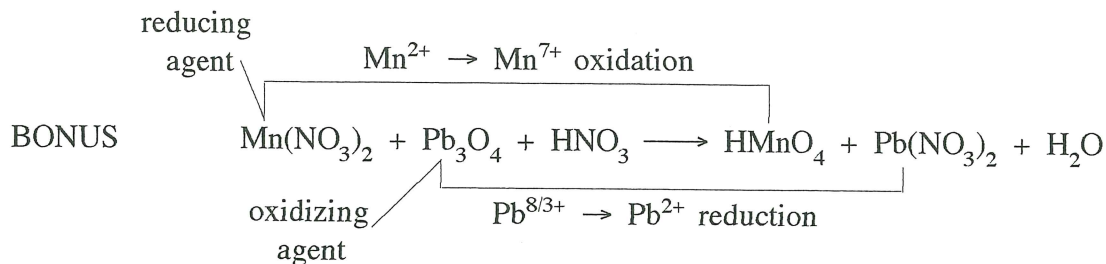




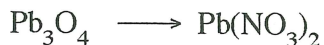
Replace missing NO_3^-



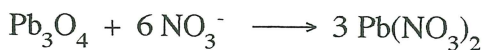
Solution to Redox Equations



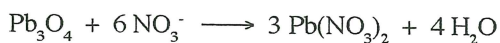
reduction half-reaction;



1. Balance atoms other than O & H;



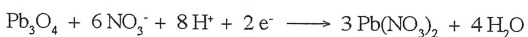
2. Balance O with H_2O ;



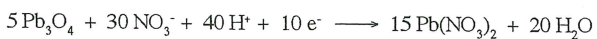
3. Balance H with H^+ ;



4. Balance charge with e^- ;



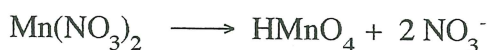
$\times 5$ to cancel e^- from oxidation reaction;



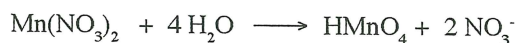
oxidation half-reaction;



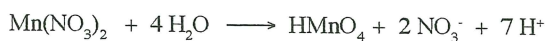
1. Balance atoms other than O & H;



2. Balance O with H_2O ;



3. Balance H with H^+ ;



4. Balance charge with e^- ;



$\times 2$ to cancel e^- from reduction reaction;



Combine both half-reactions and cancel;

