

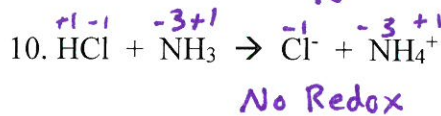
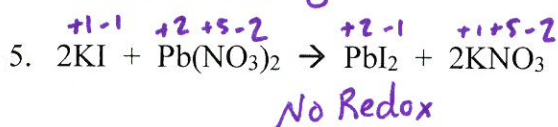
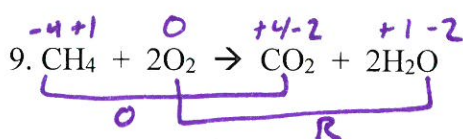
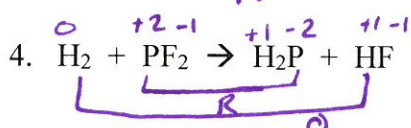
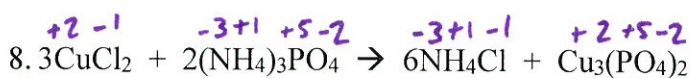
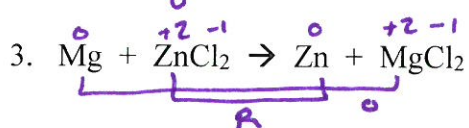
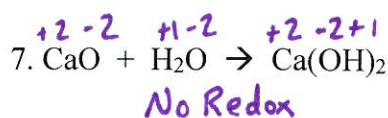
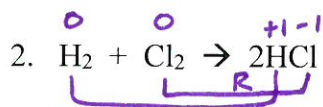
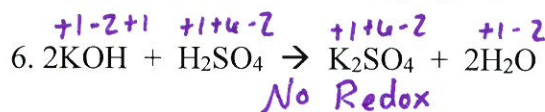
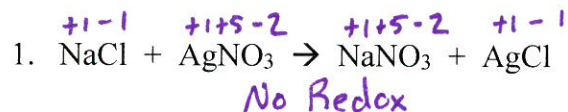
Redox Practice

Key

A. Assign oxidation numbers to each element in the following compounds:

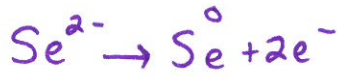
- | | |
|---|--|
| <p>1. HCl +1 -1</p> <p>2. KNO₃ +1 +5 -2</p> <p>3. OH⁻ -2 +1</p> <p>4. Mg₃N₂ +2 -3</p> <p>5. KClO₃ +1 +5 -2</p> <p>6. Al(NO₃)₃ +3 +5 -2</p> <p>7. S₈ 0</p> <p>8. H₂O₂ +1 -1 ← peroxide!</p> <p>9. PbO₂ +4 -2</p> <p>10. NaHSO₄ +1 +1 +6 -2</p> | <p>11. H₂SO₃ +1 +4 -2</p> <p>12. H₂SO₄ +1 +6 -2</p> <p>13. BaO₂ +4 -2</p> <p>14. KMnO₄ +1 +7 -2</p> <p>15. Li₂CO₃ +1 +4 -2</p> <p>16. MnO₂ +4 -2</p> <p>17. BaF₂ +2 -1</p> <p>18. SO₃ +6 -2</p> <p>19. NH₃ -3 +1</p> <p>20. Na 0</p> |
|---|--|

B. Label each reaction as either redox or non-redox. For the redox-reactions, label the substance being oxidized and the one being reduced. Then label the oxidizing agents and the reducing agents.

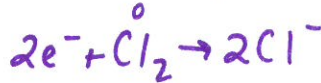


C. Write the half reactions for the following:

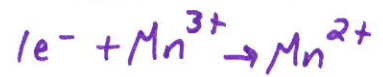
1. Oxidation of Se^{2-} to Se



2. Reduction of Cl_2 to Cl^-



3. Reduction of Mn^{3+} to Mn^{2+}



4. Oxidation of Br^- to Br_2



5. Oxidation of Mg to Mg^{2+}

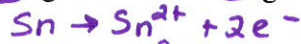


6. Reduction of O_2 to O^{2-}

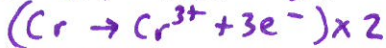


D. Balance the following reaction using the half-reaction method.

1. $\text{Sn} + 2\text{Ag}^+ \rightarrow \text{Sn}^{2+} + 2\text{Ag}$



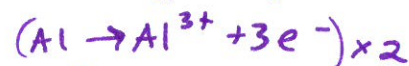
2. $2\text{Cr} + 3\text{Pb}^{2+} \rightarrow 2\text{Cr}^{3+} + 3\text{Pb}$



3. $\text{Fe} + \text{Zn}^{2+} \rightarrow \text{Fe}^{2+} + \text{Zn}$

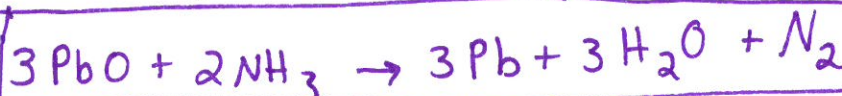
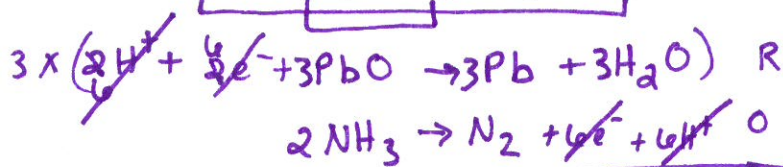


4. $2\text{Al} + 3\text{Fe}^{2+} \rightarrow 2\text{Al}^{3+} + 3\text{Fe}$



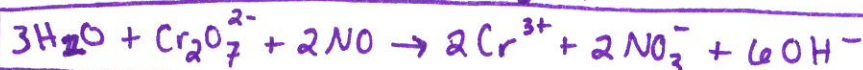
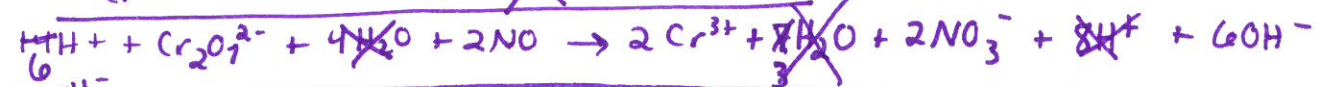
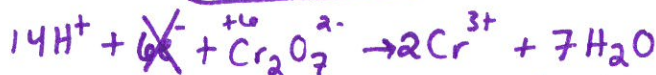
E. Balance the following for an acidic solution.

1. $\text{PbO} + \text{NH}_3 \rightarrow \text{N}_2 + \text{H}_2\text{O} + \text{Pb}$

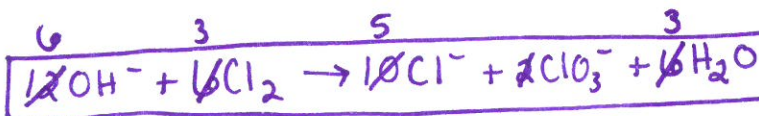
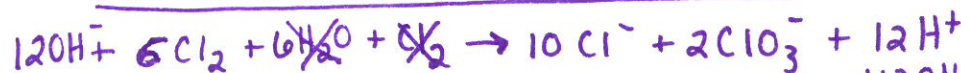


F. Balance the following for a basic solution.

1. $\text{Cr}_2\text{O}_7^{2-} + \text{NO} \rightarrow \text{Cr}^{3+} + \text{NO}_3^-$



2. $\text{Cl}_2 + \text{OH}^- \rightarrow \text{Cl}^- + \text{ClO}_3^-$



Simplify!

Final



Same thing is both oxidized & reduced!