**Name: Period: Seat#:**

**Worksheet #2**

**Directions:** In the left hand column, identify the oxidation states of the elements undergoing reduction/oxidation. In the right hand column balance the half reactions.

**Rules:**

1. Find oxidation #’s
2. Determine which elements are reduced/oxidized
3. Write each half reaction separately
4. Balance “unique” atoms   
   (everything except oxygens and hyrdrogens)
5. Add H2O’s to balance any oxygens
6. Add H+’s to balance any hydrogens
7. Add e-‘s to balance the charge

|  |  |
| --- | --- |
| 1. Li + F2  2F + Li+ | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. Pb 2+ + Mn2+ MnO2 + Pb | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. Cl2 + 2Br 2Cl + Br2 | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. Mg + NO3 Mg2+ + NO | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. MnO4 + Pb  Pb2+ + Mn2+ | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. Fe2O3(s) + 2Al(s)  2Fe(l) + Al2O3(s) | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. 2Ag + Ce4+  Ag2O2 + Ce3+ | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. PbO2 + Ag  Ag+ + Pb2+ | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |
| 1. Hg22+ + Cu  Cu2+ + 2Hg | Balance Oxidation Half Reaction |
| Balance Reduction Half Reaction |