Dougherty Valley HS Chemistry
Redox – Writing Half Reactions

Worksheet #2

Name: **Period:** **Seat#:**

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 H_2O's to balance any oxygens
6. Add H^+'s to balance any hydrogens
7. Add e^-'s to balance the charge

1) $Li + F_2 \rightarrow 2F^- + Li^+$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
2) $Pb^{2+} + Mn^{2+} \rightarrow MnO_2 + Pb$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
3) $Cl_2 + 2Br^- \rightarrow 2Cl^- + Br_2$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
4) $Mg + NO_3^- \rightarrow Mg^{2+} + NO$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction

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5) $MnO_4^- + Pb \rightarrow Pb^{2+} + Mn^{2+}$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
6) $Fe_2O_3(s) + 2Al(s) \rightarrow 2Fe(l) + Al_2O_3(s)$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
7) $2Ag + Ce^{4+} \rightarrow Ag_2O_2 + Ce^{3+}$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
8) $PbO_2 + Ag \rightarrow Ag^+ + Pb^{2+}$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction
9) $Hg_2^{2+} + Cu \rightarrow Cu^{2+} + 2Hg$	Balance Oxidation Half Reaction
	Balance Reduction Half Reaction