Balance the following redox reactions:

- 1. $IO_3^{1-} + I^- \rightarrow I_3^-$ (in aqueous acid)
- 2. $Fe(OH)_{2(s)} + H_2O_{2(aq)} \rightarrow Fe(OH)_{3(s)}$ (in aqueous base)

- 3. $H_3AsO_{4(aq)}$ + $Zn_{(s)} \rightarrow AsH_{3(g)}$ + Zn^{2+} (in aqueous acid)
- 4. Chlorine gas was first prepared by C.W. Scheele in 1774 by the following reaction: $NaCl_{(aq)} + H_2SO_{4(aq)} + MnO_{2(s)} \rightarrow Na_2SO_{4(aq)} + MnCl_{2(aq)} + H_2O_{(l)} + Cl_{2(q)}$
- 5. Gold metal will not dissolve in either concentrated nitric acid or concentrated hydrochloric acid. It will dissolve, however, in aqua regia, a mixture of the two concentrated acids. The products of the reaction are the HAuCl₄ (chloroauric acid) and gaseous NO. Write a balanced reaction for the dissolution of gold in aqua regia.