*AP Chemistry*

*Balancing Simple Redox Reactions*

Balance the following redox reactions using the half-reaction method. Be sure to write out the oxidation and reduction half-reactions!

1. Au + Fe3+ → Fe2+ + Au3+
2. Sn4+ + Cs → Cs+ + Sn2+
3. Al3+ + Co → Co2+ + Al
4. Pb + Na+ → Na + Pb2+
5. Zn2+ + Cr → Zn + Cr3+

Level 2: More involved half-reactions

6. Half-reaction A: Cl2 + 2 e- → 2 Cl-

Half-reaction B: 6 H2O + Cl2(g) → 12H+ + 2 ClO3- +10 e- +

7. Half-reaction A: Sn2+ → Sn4+ + 2 e-

Half-reaction B: 6 e- + 14 H+ + Cr2O72- → 7 H2O + 2 Cr3+

8. Half reaction A: 6 H2O + I2 → 10 e- + 12 H+ + 2 IO3-

Half reaction B: 2H+ + OCl- + 2 e- → Cl- + H2O