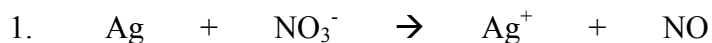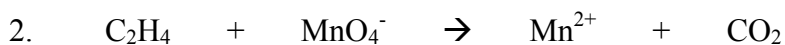Balance the following redox reaction using the half-reaction method. Identify the oxidizing agent (OA), the reducing agent (RA), the element oxidized, and the element reduced.
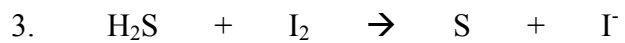
Acidic Solution Problems

1. Ag + NO_3^- → Ag^+ + NO

Element Oxidized _____ Element Reduced _____ RA _____ OA _____

Correct Equation:

2. C_2H_4 + MnO_4^- → Mn^{2+} + CO_2

Element Oxidized _____ Element Reduced _____ RA _____ OA _____

Correct Equation:

3. H_2S + I_2 → S + I^-

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

4. UF_6^- + H_2O_2 → UO_2^{2+} + HF

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

5. Fe^{2+} + MnO_4^- → Fe^{3+} + Mn^{2+}

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

6. PbO_2 + Cl^- → Pb^{2+} +Cl_2

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

7. $Cr_2O_7^{2-}$ + I^- → Cr^{3+} + I_2

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

8. Fe^{2+} + $Cr_2O_7^{2-}$ → Fe^{3+} + Cr^{3+}

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

9. I_2 + H_3AsO_3 → I^- + H_3AsO_4
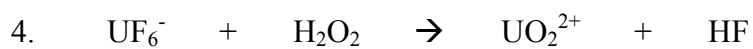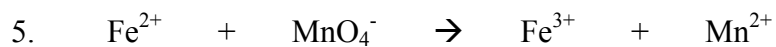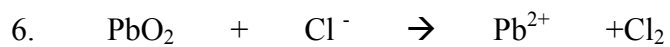
Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

Basic Solution Problems
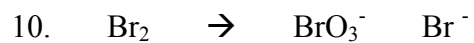
10. Br_2 → BrO_3^- Br^-

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

11. CN^- + MnO_4^- → CNO^- + MnO_2

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

12. CrO_4^{2-} + $HSnO_2^-$ → $HSnO_3^-$ + CrO_2^-

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

13. H_2O_2 + ClO_2 → ClO_2^- + O_2
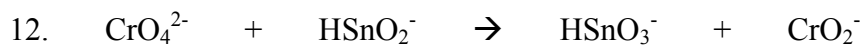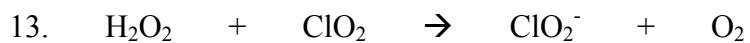
Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation:

Neutral Solution Problems

14. Fe^{3+} + I^- → Fe^{2+} + I_2

Element Oxidized _____   Element Reduced _____   RA _____ OA _____

Correct Equation: