Balancing Completion Quiz #1

1. Complete each of the following synthesis reactions and balance:

a) $4Sc + 3O_2 \rightarrow 2Sc_2O_3$

b) $6K + N_2 \rightarrow 2K_3N$

c) $H_2O + SO_3 \rightarrow H_2SO_4$

d) $NH_3 + HCl \rightarrow NH_4Cl$

e) $K_2O + CO_2 \rightarrow K_2CO_3$

2. Complete each of the following decomposition reactions and balance:

a) $2CuO \rightarrow 2Cu + O_2$

b) $SiCl_4 \rightarrow Si + 2Cl_2$

c) $CaCO_3 \rightarrow CaO + CO_2$

d) $2SO_3 \rightarrow 2SO_2 + O_2$ or $2SO_3 \rightarrow 2S + 3O_2$

e) $2H_2O \rightarrow 2H_2 + O_2$

3. Complete each of the following single replacement reactions and balance:

a) $Cd(NO_3)_2 + 2Ag \rightarrow 2AgNO_3 + Cd$

b) $UF_6 + 3Zn \rightarrow 3ZnF_2 + U$

c) $SnI_4 + 2Cl_2 \rightarrow SnCl_4 + 2I_2$

d) $2Ca_3P_2 + 6Br_2 \rightarrow 6CaBr_2 + P_4$

e) $2Fe_2O_3 + 3Pt \rightarrow 3PtO_2 + 4Fe$ (use bold O.S. for Pt)

4. Complete each of the following double replacement reaction and balance:

a) $3ZnCO_3 + 2H_3PO_4 \rightarrow Zn_3(PO_4)_2 + 3H_2CO_3$

b) $2NaClO_3 + CaSO_4 \rightarrow Na_2SO_4 + Ca(ClO_3)_2$

c) $2Au_2S_3 + 3PbC \rightarrow Au_4C_3 + 3PbS_2$

d) $W(SO_4)_3 + 2Y(ClO_4)_3 \rightarrow W(ClO_4)_6 + Y_2(SO_4)_3$