Name:_____

SCH 4C Equation Quiz

1. Balance each equation by adding stoichiometric coefficients. Be sure that your answers are in lowest terms. Then identify each reaction as one of:
   - synthesis
   - decomposition
   - single replacement
   - double replacement
   - hydrocarbon combustion

a) $4Hg + O_2 \rightarrow 2Hg_2O$

type = synthesis

b) $2Na_3PO_4 + 3Mg(NO_3)_2 \rightarrow Mg_3(PO_4)_2 + 6NaNO_3$

type = double replacement

c) $K_2CO_3 \rightarrow K_2O + CO_2$

type = decomposition

d) $3Sn(SO_4)_2 + 2Al \rightarrow Al_2(SO_4)_3 + 3Sn$

type = single replacement

e) $2C_6H_{14} + 19O_2 \rightarrow 12CO_2 + 14H_2O$

type = hydrocarbon combustion

f) $4Al + 3O_2 \rightarrow 2Al_2O_3$

type = synthesis

2. Complete each synthesis reaction and balance:

a) $3Sn + 2N_2 \rightarrow Sn_3N_4$

b) $BaO + H_2O \rightarrow Ba(OH)_2$

3. Complete each decomposition reaction and balance:

a) $2Fe_2O_3 \rightarrow 4Fe + 3O_2$

b) $CaCO_3 \rightarrow CaO + CO_2$

4. Complete each single replacement reaction and balance:

a) $6F_2 + 2Al_2O_3 \rightarrow 4AlF_3 + 3O_2$

b) $3Ca + Au_2(CO_3)_3 \rightarrow 3CaCO_3 + 2Au$

5. Complete each double replacement reaction and balance:

a) $3Na_2SO_4 + 2AlCl_3 \rightarrow 6NaCl + Al_2(SO_4)_3$

b) $4(NH_4)_3PO_4 + 3SnCl_4 \rightarrow 12NH_4Cl + Sn_3(PO_4)_4$