

Types of Reactions #1

Name _____

Period _____

Write the products and balance:

I. DECOMPOSITION

- a. $\text{BaCO}_3 \xrightarrow{\Delta} \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$ d. $\text{NaClO}_3 \xrightarrow{\Delta} \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
b. $\text{Ba(OH)}_2 \xrightarrow{\Delta} \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$ e. $\text{KCl} \xrightarrow{\text{elect.}} \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
c. $\text{PbO}_2 \xrightarrow{\Delta} \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$ f. $\text{H}_2\text{CO}_3 \xrightarrow{\Delta} \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$

II. COMPOSITION (place a * by the one that is most stable)

- a. $\text{C} + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \text{ kcal/mole}$
b. $\text{Mg} + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \text{ kcal/mole}$
c. $\text{H}_2 + \text{F}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \text{ kcal/mole}$
d. $\text{P} + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \text{ kcal/mole}$
e. $\text{Ca} + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \text{ kcal/mole}$
f. $\text{Sn} + \text{Cl}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} \text{ kcal/mole}$

III. REPLACEMENT

- a. $\text{Mg} + \text{CuSO}_4 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
b. $\text{K} + \text{H}_2\text{O} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
c. $\text{Mg} + \text{HCl} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
d. $\text{Br}_2 + \text{KI} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$

IV. IONIC (for precipitates write ↓, for gas write ↑, circle H₂O)

- a. $\text{AgNO}_3 + \text{NaCl} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
b. $\text{Sr(NO}_3)_2 + \text{Na}_2\text{CO}_3 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
c. $\text{Na}_2\text{CrO}_4 + \text{Pb(NO}_3)_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
d. $\text{Na}_2\text{CO}_3 + \text{HCl} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} (\underline{\hspace{2cm}} + \underline{\hspace{2cm}})$
e. $\text{HCl} + \text{NaOH} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
f. $\text{Zn(NO}_3)_2 + \text{Na}_3\text{PO}_4 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
g. $\text{NH}_4\text{NO}_3 + \text{NaOH} \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}} (\underline{\hspace{2cm}} + \underline{\hspace{2cm}})$

V. COMBUSTION (products are always H₂O and CO₂ in complete combustion)

- a. $\text{C}_2\text{H}_6 + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
b. $\text{CH}_4 + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
c. $\text{C}_2\text{H}_2 + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$
d. $\text{C}_{12}\text{H}_{22}\text{O}_{11} + \text{O}_2 \rightarrow \underline{\hspace{2cm}} + \underline{\hspace{2cm}}$