----- Date : -----

## Balancing and Classifying Chemical Equations

Balance the chemical reactions and identify each type.

a. 
$$SrCl_2 + AgNO_3 \rightarrow Sr(NO_3)_2 + AgCl$$
 Type of reaction:

b. LiBr + 
$$F_2 \rightarrow$$
 LiF +  $Br_2$ 

Type of reaction:

c. NaF 
$$\rightarrow$$
 Na + F<sub>2</sub>

Type of reaction:

d. 
$$ZnBr_2 + F_2 \rightarrow ZnF_2 + Br_2$$

Type of reaction:

e. 
$$CuCl_2 + H_2S \rightarrow CuS + HCI$$

Type of reaction:

f. Ca + AgCl 
$$\rightarrow$$
 CaCl<sub>2</sub> + Ag

Type of reaction:

g. 
$$PbSO_4 + AgNO_3 \rightarrow Ag_2SO_4 + Pb(NO_3)_2$$
 Type of reaction:

h. Li + 
$$N_2 \rightarrow Li_2N$$

Type of reaction:

i. 
$$C_4H_8 + O_2 \rightarrow CO_2 + H_2O$$

Type of reaction:

j. 
$$Ca(OH)_2 + Al_2(SO_4)_3 \rightarrow CaSO_4 + Al(OH)_3$$
 Type of reaction:

$$I_1 \rightarrow I_2 \rightarrow I_2 + I_2$$

Type of reaction:

I. 
$$C_9H_{20} + O_2 \rightarrow CO_2 + H_2O$$
 Type of reaction:

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## Answers

a. 
$$1 \text{ SrCl}_2 + 2 \text{ AgNO}_3 \rightarrow 1 \text{ Sr(NO}_3)_2 + 2 \text{ AgCl}$$

Type of reaction: Double displacement

b. 
$$\frac{2}{2}$$
 LiBr +  $\frac{1}{5}$  F<sub>2</sub>  $\Rightarrow$   $\frac{2}{5}$  LiF +  $\frac{1}{5}$  Br<sub>2</sub>

Type of reaction: Single displacement

c. 2 NaF 
$$\rightarrow$$
 2 Na + 1 F<sub>2</sub>

Type of reaction: Decomposition

d. 
$$1 \text{ ZnBr}_2 + 1 \text{ F}_2 \rightarrow 1 \text{ ZnF}_2 + 1 \text{ Br}_2$$

Type of reaction: Single displacement

e. 
$$1 \text{CuCl}_2 + 1 \text{H}_2 \text{S} \rightarrow 1 \text{CuS} + 2 \text{HCl}$$

Type of reaction: Double displacement

f. 
$$1 \text{ Ca} + 2 \text{ AgCl} \rightarrow 2 \text{ CaCl}_2 + 2 \text{ Ag}$$

Type of reaction: Single displacement

g. 
$$1 \text{ PbSO}_4 + 2 \text{ AgNO}_3 \rightarrow 1 \text{ Ag}_2 \text{SO}_4 + 1 \text{ Pb(NO}_3)_2$$

Type of reaction: Double displacement

h. 6 Li + 
$$1 \text{ N}_2 \rightarrow 2 \text{ Li}_3 \text{N}$$

Type of reaction: Synthesis

i. 
$${}^{1}\text{C}_{_{4}}\text{H}_{_{8}} + {}^{6}\text{O}_{_{2}} \rightarrow {}^{4}\text{CO}_{_{2}} + {}^{4}\text{H}_{_{2}}\text{O}$$

Type of reaction: Combustion

j. 
$$3 \text{ Ca(OH)}_2 + 1 \text{ Al}_2(\text{SO}_4)_3 \rightarrow 3 \text{ CaSO}_4 + 2 \text{ Al(OH)}_3$$
 Type of reaction: Double displacement

k. 
$$2 \text{ NH}_3 + 3 \text{ I}_2 \rightarrow 1 \text{ N}_2 \text{I}_6 + 3 \text{ H}_2$$

Type of reaction: Single displacement

I. 
$$1 C_9 H_{20} + 14 O_2 \rightarrow 9 CO_2 + 10 H_2 O$$

Type of reaction: Combustion