17. (5L) $\underline{6}\ \overset{A}{\underset{A}{\underline{\underline{Zn}}}}_2 \mid \overset{B}{\underline{CO_3}} + \underline{\quad}\ \overset{C}{\underset{C}{\underline{\underline{Pb}}}}_3 \mid \overset{D}{\underline{(PO_4)}}_4 \longrightarrow$

$\underset{AD}{\underline{4}}\ Zn_3PO_4 + \underset{CB}{\underline{3}}\ Pb(CO_3)_2$

Trans. → (2B)

A : $\underline{Zn}$ + $\underline{1}$ B : $\underline{CO_3}$ − $\underline{2}$

C : $\underline{Pb}$ + $\underline{4}$ D : $\underline{PO_4}$ − $\underline{3}$

(4A) ← Trans. [+4]

$Zn_2(CO_3)_1$ (−2)

$a=2 \quad b=1$

$Zn + \_\_ \quad CO_3 - 2$

$Zn = \frac{|-2 \cdot 1|}{2} = +1$

$+1 \quad -3$

AD $Zn(PO_4)$

Zn_3PO_4

$Pb_3(PO_4)_4$ (−3)

$a=3 \quad b=4$

$Pb = + \_\_ \quad PO_4 = -3$

$Pb = \frac{|4 \cdot -3|}{3} = +4$

$+4 \quad -2$

CB $Pb(CO_3)$

$Pb_{\frac{2}{2}}(CO_3)_{\frac{4}{2}}$ $Pb(CO_3)_2$

2. $\underline{3}\ \overset{A}{HCl}\ \overset{B}{} + \underline{\quad}\ \overset{C}{Al}(OH)_3\ \overset{D}{} \longrightarrow$

(acid) (base)

AD

$\underline{3}\ HOH + \underline{\quad}\ AlCl_3$

AD (water, H_2O) CB (salt)

$\overset{+1}{H}\ \overset{-1}{(OH)}$

$HOH\ (H_2O)$

CB

$\overset{+3}{Al}\ \overset{-1}{Cl}$

$AlCl_3$