

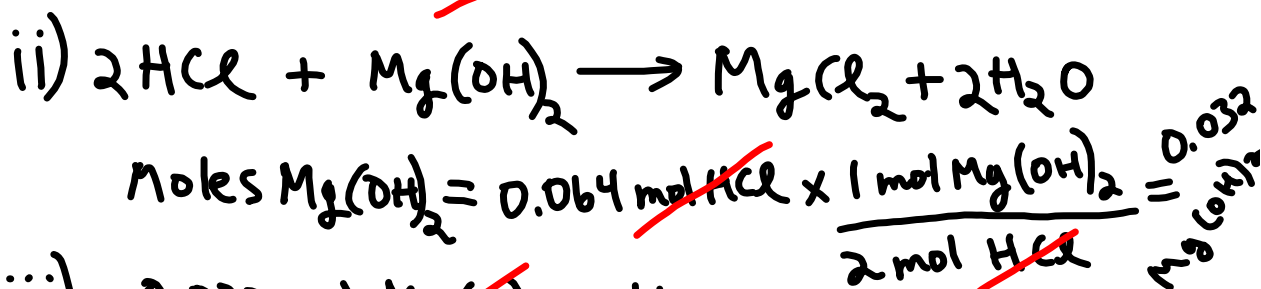
### Discuss Neutralization Questions

P.602 #18

$$\begin{array}{l} \underline{\text{HCl}} \\ 1.60 \text{ mol/L} \\ 40.0 \text{ mL} \end{array}$$

$$\begin{array}{l} \underline{\text{Mg(OH)}_2} \\ 1.015 \text{ mol/L} \\ V = ? \end{array}$$

i) Moles HCl =  $\frac{1.60 \text{ mol}}{1 \text{ L}} \times 0.040 \text{ L}$  HCl = 0.064 mol HCl



iii)  $0.032 \text{ mol Mg(OH)}_2 \times \frac{1 \text{ L}}{1.015 \text{ mol Mg(OH)}_2} = 0.032 \text{ L Mg(OH)}_2$   
 $\downarrow$   
 32 mL

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<u>NaOH</u>	<u>H<sub>3</sub>PO<sub>4</sub></u>
14.27 mL	25.0 mL
[ ] = ?	0.105 mol/L

$$i) \text{ mol H}_3\text{PO}_4 = \frac{0.105 \text{ mol}}{1} \times 0.025 \text{ L} = 0.00263 \text{ mol H}_3\text{PO}_4$$



$$0.00263 \text{ mol H}_3\text{PO}_4 \times \frac{3 \text{ mol NaOH}}{1 \text{ mol H}_3\text{PO}_4} = 0.00787 \text{ mol NaOH}$$

$$iii) [ ] = \frac{0.00787 \text{ mol NaOH}}{0.01427 \text{ L NaOH}} = 0.55 \text{ mol/L}$$