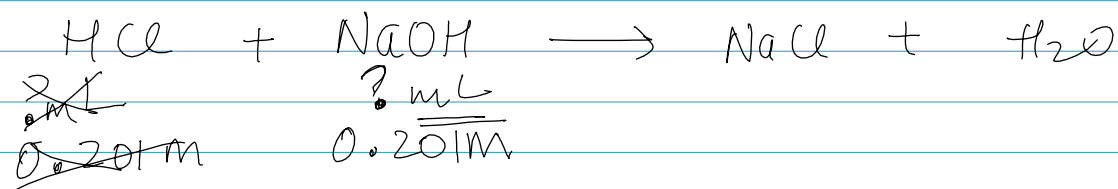


Solution Stoichiometry Acid-Base. (3)

- ① What volume in mL of a 0.201M NaOH is required to neutralize 20.00 mL of 0.1030M HCl?



20.00 mL

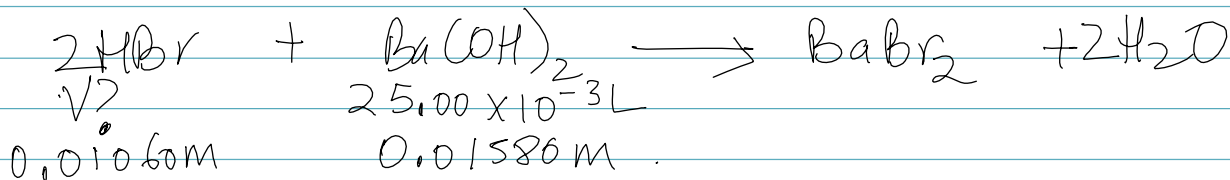
0.1030 M

Strategy (MxL) $\xrightarrow{\text{mol ratio of eqn}}$ mol NaOH $\xrightarrow{\text{molarity of NaOH}}$ L NaOH \rightarrow mL NaOH.

$$0.1030 \text{ mol/L} \times 20.00 \times 10^{-3} \text{ L HCl} \times \frac{1 \text{ mol NaOH}}{1 \text{ mol HCl}} \times \frac{1 \text{ L}}{0.201 \text{ mol NaOH}} \times \frac{1000 \text{ mL}}{1 \text{ L}}$$

\Rightarrow 10.25 mL NaOH

- ② What volume of 0.01060M HBr is required to titrate 25.00 mL of 0.01580 M Ba(OH)₂?



$$25.00 \times 10^{-3} \text{ L} \times 0.01580 \text{ mol/L Ba(OH)}_2 \times \frac{2 \text{ mol HBr}}{1 \text{ mol Ba(OH)}_2} \times \frac{1 \text{ L}}{0.01060 \text{ mol HBr}} \times \frac{1000 \text{ mL}}{1 \text{ L}}$$

\Rightarrow 74.53 mL