## Answer on Question #68027 - Chemistry -General Chemistry

how much .28 M NaOH is needed to neutralize 20.0 mL .56 M H<sub>2</sub>SO<sub>4</sub>?

## **Solution:**

$$\begin{aligned} 2\text{NaOH} + \text{H}_2\text{SO}_4 &= \text{Na}_2\text{SO}_4 + 2\text{H}_2\text{O} \\ &n(\text{NaOH}) : n(\text{H}_2\text{SO}_4) = 2 \colon 1 \\ &n(\text{NaOH}) = 2 \times n(\text{H}_2\text{SO}_4) \\ &c(\text{NaOH}) \times \text{V}(\text{NaOH}) = 2 \times c(\text{H}_2\text{SO}_4) \times \text{V}(\text{H}_2\text{SO}_4) \\ &V(\text{NaOH}) = \frac{2 \times c(\text{H}_2\text{SO}_4) \times \text{V}(\text{H}_2\text{SO}_4)}{c(\text{NaOH})} = \frac{2 \times 0.56 \times 20.0}{0.28} = 80.0 \text{ ml} \end{aligned}$$

Answer: 80.0 ml.

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