Answer on Question #50480, Chemistry, Other

What volume of 5.0 M HNO_3 is required to neutralize 2500 cm^3 of a 2.0 M NaOH solution?

Solution:

$HNO_3 + NaOH \rightarrow NaNO_3 + H_2O$

$$n = C \times V$$

$$n(HNO_3) = n(NaOH)$$

$$C_1 \times V_1 = C_2 \times V_2$$

$$V_2 = \frac{C_1 \times V_1}{C_2} = \frac{2500\ cm^3 \times 2.0\ M}{5.0\ M} = 1000\ cm^3$$

Answer:

1000 cm^3 of HNO_3