

Answer on Question #63900 - Chemistry – General Chemistry

(a) You have access to a prepared stock solution of 8.5 M NH_3 . How many mL of this solution should you dilute to make 780.0 mL of 0.450 M NH_3 ? (b) If you use 35.0 mL of the stock solution and dilute it to a total volume of 0.90 L, what will be the concentration of the final solution?

Solution.

- a) $C_1V_1 = C_2V_2$
 $8.5 \times x = 0.45 \times 780.0$
 $x = 41.3 \text{ mL}$
- b) $C_1V_1 = C_2V_2$
 $8.5 \times 35.0 = x \times 900.0$
 $x = 0.33 \text{ M}$

Answer: a) $V_1 = 41.3 \text{ mL}$
b) $C_2 = 0.33 \text{ M}$

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