Question #59543, Chemistry / General Chemistry

If 60.0 mL of water were added to 80.0 mL of a 0.500 M sodium carbonate, Na2CO3, solution, what would the final molarity be? (Hint – what is the total new volume?)

Answer

$$C_1 \cdot V_1 = C_2 \cdot V_2$$
$$V_{final} = 80 + 60 = 140 \, mL$$
$$0.5M \cdot 80 \, mL = C_x \cdot 140 \, mL$$
$$C_x = \frac{0.5 \cdot 80}{140} = 0.286M$$
$$Answer: [Na_2CO_3] = 0.286 \, M; V = 140 \, mL$$