

C04 Solution Dilution

Solution Dilution¹

$$C_i \times V_i = C_f \times V_f$$

Calculate the volume of a 0.10 *M* solution made from 200. mL of 0.30 *M* solution.

$$C_i \times V_i = C_f \times V_f$$

$$V_f = \frac{C_i \times V_i}{C_f} = \frac{0.30 \text{ M} \times 200. \text{ mL}}{0.10 \text{ M}} = 6.0 \times 10^2 \text{ mL or } 0.60 \text{ L}$$

¹ Rod uses C for concentration, which is my preference, since it stands for concentration in general (or Canada). . In the United States the equation is usually written as $M_i \times V_i = M_f \times V_f$ where the *M* stands for molarity. Actually you can use any concentration unit you like as long as you are consistent. Just as you can use any consistent volume unit in the equation.