

14. The volume at 30°C is given by

$$\begin{aligned} V' &= V(1 + \beta\Delta T) = V(1 + 3\alpha\Delta T) \\ &= (50 \text{ cm}^3)[1 + 3(29 \times 10^{-6}/\text{C}^\circ)(30^\circ\text{C} - 60^\circ\text{C})] = 49.87 \text{ cm}^3 . \end{aligned}$$

where we have used $\beta = 3\alpha$.