

SOLUTION CHAP 5

$$\boxed{1} \quad \frac{830}{760} = 1.092 \text{ atm} \left(\frac{1.013 \times 10^5 \text{ Pa}}{1 \text{ atm}} \right) = 1.106 \times 10^5 \text{ Pa} \\ \text{or } 101.6 \text{ kPa}$$

$$2.98 \text{ atm} \left(\frac{1.013 \times 10^5 \text{ Pa}}{1 \text{ atm}} \right) = 3.019 \times 10^5 \text{ Pa} \\ \text{or } 301.9 \text{ kPa}$$

$$2.98 \text{ atm} \left(\frac{760 \text{ torr}}{1 \text{ atm}} \right) = 2264.8 \text{ torr}$$

$$\boxed{2} \quad \frac{V_1 \cancel{P_1}}{\cancel{n_1} T_1} = \frac{V_2 \cancel{P_2}}{\cancel{n_2} T_2} \quad \text{at constant pressure and moles}$$

$$\frac{V_1}{T_1} = \frac{V_2}{T_2}$$

$$\frac{3.90 \text{ L}}{[72 + 273]} = \frac{V_2}{[-18 + 273]}$$

$$V_2 = \frac{3.90 (255)}{345} = 6.65 \text{ L}$$

