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$$1. P_T = 98 + 202.65 \\ = 300.65 \\ = 301 \text{ kPa}$$

$$P_A = \frac{n_A}{n_T} \times P_T$$

$$2. P_T = P_{Ar} + P_{Ne}$$

$$102.7 = P_{Ar} + 52.5$$

$$50.2 = P_{Ar}$$

$$3. P_T = 116 \text{ kPa}$$

$$P_{Ne} = 116 \times 0.12 = 13.92 = 14 \text{ kPa}$$

$$P_{He} = 116 \times 0.23 = 26.68 = 27 \text{ kPa}$$

$$P_{Ar} = 116 \times 0.65 = 75.4 = 75 \text{ kPa}$$

$$4. \frac{40}{100} = \frac{325 \text{ mmHg}}{x}$$

$$x = 812.5 = 8.1 \times 10^2 \text{ mmHg} \\ \frac{812.5}{760} = 1.069 \\ x = 101.3 \quad 1.1 \times 10^2 \text{ kPa}$$

$$5. P_T = 2573$$

$$n_T = 0.85 + 0.55 + 0.27 + 1.25 = 2.92$$

$$P_{CH_4} = \frac{0.85}{2.92} \times 2573 = 748.19 = 7.5 \times 10^2 \text{ kPa}$$

$$P_{O_2} = 484.64 = 4.8 \times 10^2$$

$$P_{N_2} = 1101.45 = 1.1 \times 10^3$$

$$P_{C_3H_8} = 237.9 = 2.4 \times 10^2$$

$$6. 0.7 \text{ atm}$$

$$7. P_T 102.6$$

$$P_{CO_2} = 102.6 \times 0.035 = 3.591 = 3.6 \text{ kPa}$$

$$O_2 = 102.6 \times 0.04 = 4.104 = 4.1 \text{ kPa}$$

$$H_2O = 102.6 \times 0.925 = 94.905 = 94.9 \text{ kPa}$$

$$8. 1000 - 125 - 235 = 640$$

$$\frac{640}{1000} = 64.0\%$$