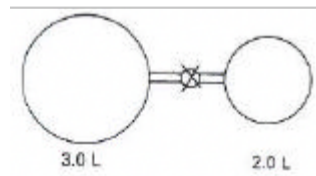1. The valve between the 2.00-L bulb, in which the gas pressure is 1.00 atm, and the 3.00-L bulb, in which the gas pressure is 1.50 atm, is opened. What is the final pressure in the two bulbs, the temperature remaining constant?

3.0 L   2.0 L

1.30 atm

2. The partial pressures of CH_4, N_2, and O_2 in a sample of gas were found to be 100, 450, and 200 mmHg, respectively. Calculate the mole fraction of nitrogen.

0.600

3. The density of a gas is 3.48 g/L at STP. What is its molecular weight?

78.0 g/mol

4. It takes 16.6 min for a 10.0-mL sample of an unknown gas to effuse through a pinhole. A 10.0-mL sample of helium, He, required 5.00 min. What is the molecular weight of the unknown gas?

44.1 g/mol