

GAS LAW CALCULATIONS PRACTICE # 1

a. A 5.00 L container is filled with N_2 (g) to a pressure of 3.00 atm at 250°C . What would be the volume of a container that is used to store the same gas at STP?

b. Calculate the volume (in liters) occupied by 7.40 g of CO_2 at STP.

c. **Molar Mass/Density Calculations!** Propane is used as a general anesthetic. It has a molar mass of 42.0 g/mol. What is the DENSITY of propane gas at 25°C and 1.02 atm?

d. A compound contains 11.79% C, 69.57% Cl and 18.64 % F.

a) Find the empirical formula.

b) If 0.107 g of the compound fills a 458 mL flask at 25°C with a pressure of 21.33 mmHg, what is the molecular formula?

e. What volume of N_2 gas at 720 torr and 23°C is required to react with 7.35 L of H_2 gas at the same temperature and pressure?