

The Ideal Gas Law

$$PV = nRT$$

1. A 65.62 g sample of N_2 occupies a volume of 12.0 L at a temperature of 145.0 °C. What is the pressure of the gas?
2. How many molecules of oxygen, O_2 , are 45.0 L container under 1.25 atm of pressure at 135°C?
3. Calculate the molar mass of a gas if a 28.54 g sample is under a pressure of 755 mmHg at 27.6°C. The volume of gas is 28.6 L.
4. What is the density of CO_2 gas at 1.65 atm and 32.6 °C?
5. Calculate the density of ethane, C_2H_6 , at 0.82 atm and 120 °C.