Ideal Gas Laws

1.   What pressure is exerted by 1.0 mol of an ideal gas contained in a 1.0 L vessel at 0.0° C?

2.   What volume will 5.0 mol of an ideal gas occupy at 25.0° C and 1.5 atm of pressure?

3.   Calculate the molecular weight of a gas if 4.5 L of the gas at 785 torr and 23.5° C weigh 13.5 g.

4.   0.453 mol of a gas confined to a 15.0 L container exerts a pressure of 1.24 atm on the walls of the container. What is the temperature of the gas?

5.   5.4g of carbon dioxide gas are confined to a 20.0 L container at a temperature of 32.5° C. What pressure does the gas exert?

6.   2.125 g of a gas in a 1.25 L container exert a pressure of 0.838 atm at 40.0° C. what is the molecular weight of the gas?

7.   To what temperature must 10.0 g of ammonia gas have to be heated in a 15.0 L container in order for it to exert a pressure of 3.50 atm?

8. 2.0×10^{-5} g of hydrogen gas at 155° C exert a pressure of 322.5 torr on the walls of a small cylindrical tube. What is the volume of the tube?