Gas Laws 2
Chemistry

Name

1   Fill in the table below with the missing information:

	mm Hg	lb/in.^{2}	atmospheres (atm)
(a)	789		
(b)		32	
(c)			1.4

2   A sample of a gas occupies a volume of 525 mL at 625 torr. At constant temperature, what will be the new volume when the pressure changes to the following measures. Note: You must change the pressures to consistent units.
(a) 1.5 atm

(b) 455 mmHg

3   A sample of a gas at 0.75 atm occupies a volume of 521 mL. If the temperature remains constant, what will be the new pressure if the volume increases to 776 mL?

4   A sample of a gas occupies a volume of 1025 mL at 75°C and 0.75 atm. What will be the new volume if temperature decreases to 35°C and pressure increases to 1.25 atm?

5   A 775-mL sample of NO_2 gas is at STP. If the volume changes to 615 mL and the temperature changes to 25°C, what will be the new pressure?

6   An expandable balloon contains 1400. L of He at 0.950 atm pressure and 18°C. At an altitude of 22 miles (temperature 2.0°C and pressure 4.0 torr), what will be the volume of the balloon?

7   A mixture contains H_2 at 600. torr pressure, N_2 at 200. torr pressure, and O_2 at 300. torr pressure. What is the total pressure of the gases in the system?

8   How many moles of O_2 will occupy a volume of 1.75 L at STP? Then find the mass in grams.

9   How many grams of are present in 725 mL of the gas at STP?

10   At what Kelvin temperature will 25.2 mol of Xe occupy a volume of 645 L at a pressure of 732 torr?