Chapter 10 Practice Test

1. A given mass of oxygen occupies 560 ml when the pressure is 800 mm of Hg. What volume will the gas occupy at 700 mm Hg, provided the temperature remains constant?

2. Calculate the volume that will be occupied by 280 ml of hydrogen, measured at 780 mm Hg, when the pressure is changed to 720 mm Hg.

3. A gas has a volume of 91 ml at a temperature of 91°C. If the temperature is a reduced to 0°C and the pressure remains constant, what will be the new volume of the gas?

4. A gas measures 140 ml at 73°C. Find its volume at standard temperature if the pressure remains constant.

5. To what temperature must a sample of gas at 100°C and 560 torr be heated in order increase the pressure to 760 torr?

6. A sample of hydrogen exerts a pressure of 1.20 atmospheres at a temperature of 25°C. What pressure does the gas exert at 100 °C?

7. A gas collected when the temperature is 15°C and the pressure is 700 mm Hg measures 1220 ml. Calculate its volume at 25°C and 760 mm Hg.

8. A 500 mL sample of a gas at a temperature of 23°C exerts a pressure of exactly one atmosphere. What volume does the gas occupy when the volume increases to 800mL and the temperature increases to 85 °C?

9. A metal canister contains a mixture of neon, argon and radon. The neon exerts a pressure of 0.42 atmospheres, the argon exerts a pressure of 0.18 atmospheres, and the total pressure in the container is 1.30 atmospheres. What is the pressure exerted by the radon gas?

10. A 1.00 liter pressurized gas cylinder contains a mixture of oxygen and nitrogen. When the temperature is 25 °C, the partial pressure of oxygen is 425 torr and the partial pressure of nitrogen is 325 torr. What is the total pressure in the container at 150 °C?

11. If 35 mL of hydrogen gas exerts a pressure of 355 torr at a temperature of 15°C, what temperature CHANGE, in Celsius degrees, must take place in order for the gas to occupy 25 mL at a pressure of 800 torr?