**Remediation – Gas Laws** Name: .

1. State the relationships between the following:
   1. Pressure and temperature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   2. Pressure and volume: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
   3. Volume and temperature: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_
2. Convert the following:
   1. 39 mm Hg = \_\_\_\_\_\_\_\_\_\_\_ kPa
   2. 0.459 atm = \_\_\_\_\_\_\_\_\_\_\_\_\_ Torr
   3. 0.205 moles of Chlorine gas = \_\_\_\_\_\_\_\_\_\_\_\_\_ L
   4. 90 L of Helium = \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ moles
3. In a sample of gases, carbon dioxide has a pressure of 230 kPa, oxygen has a pressure of 18 kPa, and nitrogen has a pressure of 45 kPa. If all three gases are combined into a single container, what would the total pressure of the gas mixture be?

List the equation:

Solve the problem:

1. A gas has a pressure of 1.2 atm and a volume of 1.5 L. If the temperature remains constant, but the volume is reduced to 0.25 L, what is the final pressure?

List the equation:

Solve the problem:

1. If 5.5 moles of a gas are put into a container that holds 30 L at a temperature of 15oC, what pressure (in atm) would it be?

List the equation:

Solve the problem:

1. A gas has a temperature of 100oC and it occupies a space of 2.0 L at 5.80 atm. If its conditions change so that it is at STP, what is the final volume?

List the equation:

Solve the problem:

1. A gas at constant volume experiences a pressure change from 280 torr to 780 torr. If the final temperature was 38oC, what was the initial temperature?

List the equation:

Solve the problem:

1. A 30.0 L sample of nitrogen inside a metal container at 20.0 °C is placed inside an oven whose temperature is 50.0 °C. The pressure inside the container at 20.0 °C was at 3.00 atm. What is the pressure of the nitrogen after its temperature is increased?

List the equation:

Solve the problem:

1. At a pressure of 780.0 mmHg and 24.2 °C, a certain gas has a volume of 350.0 mL. What will be the volume of this gas under STP?

List the equation:

Solve the problem:

1. What volume will .35 moles of Argon occupy at STP?

List the equation:

Solve the problem: