Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Period: \_\_\_\_\_\_\_\_\_\_\_\_ Date: \_\_\_\_\_\_\_\_\_\_\_

**Gas Laws Review Worksheet**

**Complete the following relationships.**

* 1. As pressure increases, volume \_\_\_\_\_\_\_\_\_\_\_.
  2. As temperature increases, volume \_\_\_\_\_\_\_\_\_\_.
  3. As temperature decreases, pressure \_\_\_\_\_\_\_\_\_\_\_\_.

**For each of the following problems, write the formula and show all of your work, including units. Place a box around your final answer.**

1. A weather balloon has a volume of 35 L at sea level (1.0 atm). After the balloon is released it rises to where the air pressure is .75 atm. What will the new volume of the weather balloon be?
2. A gas system has an initial temperature of 443.0 K with the pressure unknown. When the temperature changes to 1390 K the pressure is found to be 7.77 atm. What was the initial pressure in atm?
3. A gas system has initial pressure and temperature of 12.0 atm and 27.9°C If the pressure changes to 3.74 atm, what will the resultant temperature be in °C?
4. There are 135 L of gas in a container at a temperature of 260°C. If the gas was cooled until the volume decreased to 75 L, what would the temperature of the gas be (in °C)?
5. CaCO3 decomposes at 1200 °C to form CO2 gas and CaO. If 25 L of CO2 are collected at 1200 °C, what will the volume of this gas be after it cools to 25°C?
6. The initial volume of a gas at a pressure of 3.2 atm is 2.9 L. What will the volume be if the pressure is increased to 4.0 atm?
7. 6.0 L of gas in a piston at a pressure of 1.0 atm are compressed until the volume is 3.5 L. What is the new pressure inside the piston?