Name: Date: Period:

Practice: G. Lussac’s Law

1. If a gas takes up 77.0 L at a pressure of 18.0 mmHg, calculate the volume at 760 mmHg.
2. A gas in a sealed container has a pressure of 125 kPa at a temperature of 30.0 ºC. If the pressure in the container is increased to 201 kPa, what is the new temperature?
3. The pressure in an automobile tire is 1.88 atm at 25 ºC. What will the pressure be if the temperature warms up to 37.0 ºC?
4. A rigid plastic container of methane gas has a pressure of 0.9 atm when the temperature is 22.0 ºC. Calculate the new pressure if the temperature is increased to 44.6 ºC.
5. A samples of nitrogen occupies a volume of 250 mL at 298 K. What volume will it occupy at 95 ºC?
6. If the original pressure of a gas sample at 20 ºC was 5.00 atm, what will the new pressure be if the gas is heated to 40 ºC?
7. A cylinder of gas has a pressure of 4.40 atm at 25 ºC. If the pressure is increased to 6.50 atm, calculate the new temperature in **degrees Celsius** (ºC).
8. A mylar balloon is filled with helium gas to a pressure of 107.0 psi when the temperature is 22 ºC. If the pressure is decreased to 86.5 psi, calculate the new temperature. Give your answer in both K and ºC.