

Name _____ Date _____ Period _____

Gas Ws #2: More Problems with Boyle, Charles & Lussac

Show all your work and provide answers in the correct number of sig figs.

Circle your final answer with units.

1. An inflated balloon occupies a volume of 3.20 L at 25.0°C. What volume will the balloon occupy at 50.0°C if the pressure is constant?
2. Suppose a used aerosol can contains a gas at 760 torr and 25.0°C. If this can is heated in a fire to 500.0°C, what will be the pressure of the gas inside the can?
3. The gas in an aerosol container has a pressure of 3.00 atm at 57.0°C. What will be the new pressure if the temperature is lowered to -173.0°C? Assume the volume stays the same.
4. A gas with a volume of 40.0L at a pressure of 0.90 atm is allowed to expand until the pressure drops to 0.20 atm. assuming the temperature is constant, what is the new volume?
5. The pressure in an automobile tire is 2.0 atm at 27.0°C. At the end of a journey on a hot sunny day, the pressure has risen to 2.2 atm. What is the temperature of the air in the tire? Assume the volume of gas has not changed.
6. 5.00 L of air at -50.0°C are warmed to 100.0°C. What is the new volume if the pressure doesn't change?
7. Suppose we have a sample of ammonia gas with a volume of 3.50L at a pressure of 1.68 atm. The gas is compressed to a volume of 1.35 L at a constant temperature. Calculate the final pressure.
8. A sample of methane gas has a volume of 3.8 L at 5.00°C. If the sample is heated to 86.0°C at a constant pressure, what would be the new volume?
9. What volume will be occupied by nitrogen in a 50.0 L cylinder at a pressure of 120.5 atm when it expands into a space where the pressure is 733.0 mm Hg?
10. A balloon of gas occupies 2.500 L at 780.0 torr. What new volume will the gas occupy at 760.0 torr if the temperature is constant?