

Gay-Lussac's Law Worksheet

Assume that the volume and the amount of gas are constant in the following problems.

1. A gas in a sealed container has a pressure of 125 kPa at a temperature of 30.0°C. If the pressure in the container is increased to 201 kPa, what is the new temperature?
2. The pressure in an automobile tire is 1.88 atm at 25.0°C. What will be the pressure if the temperature warms up to 37.0°C?
3. Helium gas in a 2.00 L cylinder is under 1.12 atm pressure. At 36.5°C that same gas sample has a pressure of 2.56 atm. What was the initial temperature of the gas in the cylinder?
4. If a gas sample has a pressure of 30.7 kPa at 0.00°C, by how much does the temperature have to decrease to lower the pressure to 28.4 kPa?
5. A rigid plastic container holds 1.00 L methane gas at 0.9 atm pressure when the temperature is 22.0°C. How much more pressure will the gas exert if the temperature is raised to 44.6°C?