

1. Boyle's Law: When _____ is held constant, the pressure and volume of a gas are _____ proportional.
2. Mathematically, Boyle's law is stated $PV = \underline{\hspace{2cm}}$ or $P_1V_1 = \underline{\hspace{2cm}}$.
3. At a pressure of 405 kPa, the volume of a gas is 6.00 cm³. Assuming the temperature remains constant, at what pressure will the new volume be 4.00 cm³?
4. A volume of gas at 1.10 atm was measured at 326 cm³. What will be the volume if the pressure is adjusted to 1.90 atm?
5. If 36.5 m³ of a gas are collected at a pressure of 755 mm Hg, what volume will the gas occupy if the pressure is changed to 632 mm Hg?

6. Charles's Law: When _____ is held constant, the volume and temperature of a gas are _____ proportional.
7. Mathematically, Charles's Law is stated: $\frac{V}{T} = \text{_____}$ or $\frac{V_1}{T_1} = \text{_____}$.
8. The _____ temperature scale must be used in all gas law problems.
9. At 189 K, a sample of gas has a volume of 32.0 cm³. What volume does the gas occupy at 242 K?
10. The gas in a balloon occupies 2.25 L at 298 K. At what temperature will the balloon expand to 3.50 L?
11. A sample of gas has a volume of 852 mL at 25°C. What Celsius temperature is necessary for the gas to have a volume of 945 mL?