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THE COMBINED GAS LAW

In practical terms, it is often difficult to hold any of the variables constant. When there is a change in pressure, volume and temperature, the combined gas law is used.

$$\frac{P_1 V_1}{T_1} = \frac{P_2 V_2}{T_2} \quad \text{or} \quad P_1 \times V_1 \times T_2 = P_2 \times V_2 \times T_1$$

$$K = ^\circ\text{C} + 273$$

Complete the following chart.

	P₁	V₁	T₁	P₂	V₂	T₂
1	1.50 atm	3.00 L	20.0 °C	2.50 atm		30.0 °C
2	720. torr	256. mL	25.0 °C		250. mL	50.0 °C
3	600. mmHg	2.50 L	22.0 °C	760. mmHg	1.80 L	
4		750. mL	0.00 °C	2.00 atm	500. mL	25.0 °C
5	95.0 kPa	4.00 L		101. kPa	6.00 L	471. K or 198. °C
6	650. torr		100. °C	900. torr	225. mL	150. °C
7	850. mmHg	1.50 L	15.0 °C		2.50 L	30.0 °C
8	125. kPa	125. mL		100. kPa	100 mL	75.0 °C