

Worksheet Gas Laws Chapter 6

Boyles Law (6.3)

$$P_1V_1 = P_2V_2$$

Charles Law (6.4)

$$\frac{V_1}{T_1} = \frac{V_2}{T_2}$$

Guy-Lussac's Law (6.5)

$$\frac{P_1}{T_1} = \frac{P_2}{T_2}$$

Combined Gas Law (6.6)

$$\frac{P_1V_1}{T_1} = \frac{P_2V_2}{T_2}$$

Avogadro's Law and STP (6.7) Standard T = 0 °C & Standard P = 1 atm

$$\frac{V_1}{n_1} = \frac{V_2}{n_2}$$

Molar volume: 1 mole = 22.4 L at STP

$$\frac{22.4 \text{ L}}{1 \text{ mol}} = \frac{V_2}{n_2}$$

Dalton Law of Partial Pressure (6.8)

$$P_1 + P_2 + \dots + P_n = P_{\text{total}}$$

Notes:

1. Temperatures must be in K, where $K = C + 273$

2. Pressures and volumes must be in consistent units.