

Chemistry 111: Chapter 10 formulas (Need to know)

Pressure: $P = \text{gravity (g)} * \text{density (d)} * \text{height (h)}$

Boyle's law: $P_1 * V_1 = P_2 * V_2$

Charles law: $V_1/T_1 = V_2/T_2$

General Gas law: $(P_1 V_1)/T_1 = (P_2 V_2)/T_2$

***Note: Treat each formula as a math problem and set up the problem accordingly. One example of this would be if you're trying to find the final pressure, P_2 , you would set it up accordingly: $P_2 = P_1 V_1 / V_2$.

Ideal Gas law: $PV = nRT$

$R =$ Gas constant $= 0.08206 \text{ L} * \text{atm} / \text{mol} * \text{K}$. Also whenever you use the R value you must use atm for the pressure.

$n =$ moles of a substance

$T =$ Temp and it MUST ALWAYS be in kelvin when using the ideal gas law.

Gas Density: $\text{Mass}_{(\text{molar})} * \text{Pressure}_{(\text{atm})} / R * T$

Dalton's law of partial pressure: $(P_{\text{total}} = n_{\text{total}} * R * T) / V$