Example:
What is the density of oxygen, in grams per liter, at 25°C and 0.850 atm?

\[ d = \text{? need } \frac{g}{L} \]

\[ P = 0.850 \text{ atm} \]

\[ T = 25°C + 273 = 298 K \]

\[ M = 32 \text{ g / mol} \]

\[ d = \frac{PM}{RT} \]

Now, let's substitute the values for \( P \), \( T \) & \( M \)

\[ d = \left( \frac{0.850 \text{ atm}}{298 \text{ K}} \right) \left( \frac{32 \text{ g}}{\text{mol}} \right) \left( \frac{\text{mol K}}{0.08206 \text{ L atm}} \right) \]

\[ d = 1.11 \text{ g/L} \]