

Problema0253: Calcula a masa de CO_2 que contén 3L deste gas a 25°C e 740mm Hg.

$$P \cdot V = n \cdot R \cdot T$$

$$P \cdot V = \frac{m}{M_m} \cdot R \cdot T$$

$$M_m(\text{CO}_2) = 12\text{ g} + 2 \cdot 16\text{ g} = 44\text{ g/mol}$$

$$m = \frac{P \cdot V \cdot M_m}{R \cdot T} = \frac{\frac{740\text{ mmHg}}{760\text{ mmHg/atm}} \cdot 3\text{ L} \cdot 44\frac{\text{g}}{\text{mol}}}{0,082\frac{\text{atm}\cdot\text{L}}{\text{mol}\cdot\text{K}} \cdot 298\text{ K}} = \underline{5,26\text{ g CO}_2}$$