

Subiectul B. ELEMENTE DE TERMODINAMICĂ

II.a.	$N_1 = \nu_1 N_A$ $p_1 V = \nu_1 R T_1$ $N_1 = \frac{p_1 V}{R T_1} N_A$ <p>Rezultat final: $N_1 = 8,7 \cdot 10^{26}$</p>
b.	$p_1 V = \frac{m_1}{\mu} R T_1$ $p_1 = \frac{\rho_1}{\mu} R T_1$ $\rho_1 = \frac{\mu p_1}{R T_1}$ <p>Rezultat final: $\rho_1 = \frac{80}{8,31} \cong 9,6 \text{ kg/m}^3$</p>
c.	$p_2 V = \frac{m_2}{\mu} R T_2$ $m_2 = \frac{m_1}{2}$ $p_1 V = \frac{2 m_2}{\mu} R T_1$ $p_2 = p_1 \frac{T_2}{2 T_1}$ <p>Rezultat final: $p_2 = 2,8 \text{ MPa}$</p>
d.	$m_{\text{He}} = \frac{\mu_{\text{He}}}{N_A}$ <p>Rezultat final: $m_{\text{He}} = 6,6 \cdot 10^{-27} \text{ kg}$</p>