

Мейерсово Вещество, Б02-001, РНО N2

N2 $\gamma = 1$ молю, $V = 25$ л, $T = 300$ K; $W(V = 1 \text{ cm}^3, \Delta T = 1 \text{ K}) / W_0 = ?$

$$W = W_0 e^{-\frac{\Delta S}{k}}, \quad dS = \delta Q \left(\frac{1}{T - \Delta T} - \frac{1}{T} \right) = \frac{3}{2} R \cdot \frac{\Delta V}{V} \cdot \frac{\Delta T}{T^2} d(\Delta T) \Rightarrow \Delta S = \frac{3}{2} R \frac{\Delta V}{V} \cdot \left(\frac{\Delta T}{T} \right) \cdot \frac{1}{2}$$

$$\frac{W}{W_0} = e^{-\frac{3}{4} N_A \frac{\Delta V}{V} \left(\frac{\Delta T}{T} \right)^2} = e^{-2 \cdot 10^{14}}$$

Отвеч.: $\frac{W}{W_0} = e^{-\frac{3}{4} N_A \frac{\Delta V}{V} \left(\frac{\Delta T}{T} \right)^2} = e^{-2 \cdot 10^{14}}$

N4

$$\bar{m} = \frac{0 \cdot e^{-\frac{0}{kT}} + \varepsilon \cdot e^{-\frac{\varepsilon}{kT}} - \varepsilon \cdot e^{-\frac{\varepsilon}{kT}}}{e^{-\frac{0}{kT}} + e^{-\frac{\varepsilon}{kT}} + e^{-\frac{\varepsilon}{kT}}} = \varepsilon \frac{1 - e^{-\frac{2\varepsilon}{kT}}}{1 + e^{-\frac{\varepsilon}{kT}} + e^{-\frac{2\varepsilon}{kT}}} = \dots ?$$