**Subiectul B. ELEMENTE DE TERMODINAMICĂ**

| III.a. | |
|---|---|
| | reprezentare grafică în sistemul de coordonate $p - T$ |
| **b.** | $\Delta U_{13} = \upsilon \cdot C_V \cdot (T_3 - T_1)$ <br><br> $C_V = \dfrac{R}{\gamma - 1} = \dfrac{5}{2} \cdot R$ <br><br> $\Delta U_{13} = \dfrac{5}{2} \cdot p_1 \cdot V_1 \cdot (e - 1)$ <br><br> Rezultat final: $\Delta U_{13} = 427{,}5 \text{ J}$ |
| **c.** | $L = L_{12} + L_{23} + L_{31}$ <br><br> $L = 0 + \upsilon \cdot R \cdot T_2 \cdot \ln \dfrac{V_3}{V_2} + p_1 \cdot (V_1 - V_3) = p_1 \cdot V_1$ <br><br> Rezultat final: $L = 100 \text{J}$ |
| **d.** | $\dfrac{\left|Q_{ced}\right|}{Q_{abs}} = \dfrac{Q_{31}}{Q_{12} + Q_{23}}$ <br><br> $\dfrac{\left|Q_{ced}\right|}{Q_{abs}} = \dfrac{\upsilon \cdot C_p \cdot (T_3 - T_1)}{\upsilon \cdot C_V \cdot (T_2 - T_1) + \upsilon \cdot R \cdot T_2 \cdot \ln \dfrac{V_3}{V_2}}$ <br><br> $\dfrac{\left|Q_{ced}\right|}{Q_{abs}} == \dfrac{7 \cdot (e - 1)}{5 \cdot (e - 1) + 2 \cdot e}$ <br><br> Rezultat final: $\dfrac{\left|Q_{ced}\right|}{Q_{abs}} \cong 0{,}85$ |