

**Subiectul B. ELEMENTE DE TERMODINAMICĂ**

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|----------------|---|
| <b>III. a.</b> | $\frac{V_2}{V_1} = \frac{V_3}{V_2} = 3, \quad \frac{V_4}{V_3} = \frac{V_1}{V_4} = \frac{1}{3}$                                      |
| <b>b.</b>      | $Q_{12} = \nu C_p \cdot 2T$ $\Delta U_{34} = -\nu C_V \cdot 2T$ <p>Rezultat final: <math>\Delta U_{34} = -120 \text{ J}</math></p>  |
| <b>c.</b>      | $L_{12} = 3p \cdot \frac{2}{3}V = 2pV$ $L_{34} = p \cdot (-2V) = -2pV$ <p>Rezultat final: <math>L_{12} + L_{34} = 0</math></p>      |
| <b>d.</b>      | $Q_{23} = 3\nu RT \ln 3$ $Q_{12} = \nu \frac{5}{2} R \cdot 2T = 5\nu RT$ <p>Rezultat final: <math>Q_{pr} = 332 \text{ J}</math></p> |