

1) VOLUME = const ISOCORA

$$\Delta U = Q$$

$$C_v = \frac{Q}{\Delta T}$$

$$C_v = \frac{\Delta U}{\Delta T}$$

$$C_v = \frac{\frac{1}{2} f m R \Delta T}{\Delta T}$$

$$C_v = \frac{1}{2} f R$$

2) ISOBARA

$$C_p = \left(\frac{1}{2} f + 1\right) R$$

$$C_p = \frac{f+2}{2} R$$

$$C_p = C_v + R$$

$$\frac{C_p}{C_v} = \gamma$$

$$\gamma = \frac{f+2}{f}$$

MONOATOMICA  $f = 3$

$$C_v = \frac{3}{2} R$$

$$C_p = \frac{5}{2} R$$

$$\gamma = \frac{5}{3}$$

BIATOMICA

$f = 5$

$$C_v = \frac{5}{2} R$$

$$C_p = \frac{7}{2} R$$

$$\gamma = \frac{7}{5}$$

$$\Delta U = -L$$

$$L = n C_v (T_i - T_f)$$

$$\Delta U = \frac{1}{2} f m R (T_f - T_i) - \frac{1}{2} f m R (T_f - T_i)$$

$$\frac{1}{2} f m R (T_f - T_i)$$

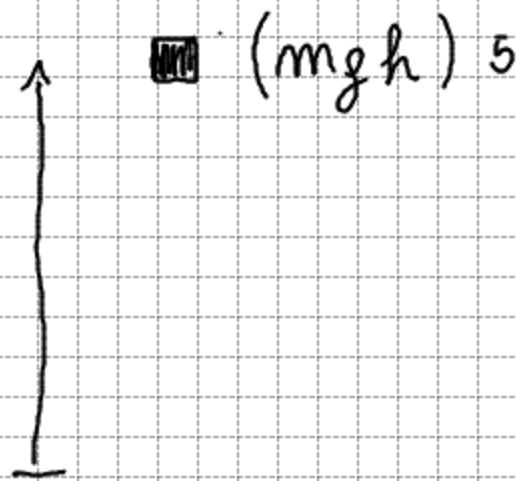
$$h = 4,2 \text{ m}$$

$$T_i = 20^\circ \text{C}$$

1, 2, 3, 4, 5

$$T_f =$$

$$Q = m C_v \Delta T$$



$$5 m g h = m C_v (T_f - T_i)$$

$$5 \cdot 9,81 \cdot 4 = 130 (x - 20^\circ)$$

$$C_v = 130 \text{ J/kg}\cdot\text{K}$$