

22)

$$P = 76 \text{ cv} = 11767,98 \text{ W}$$

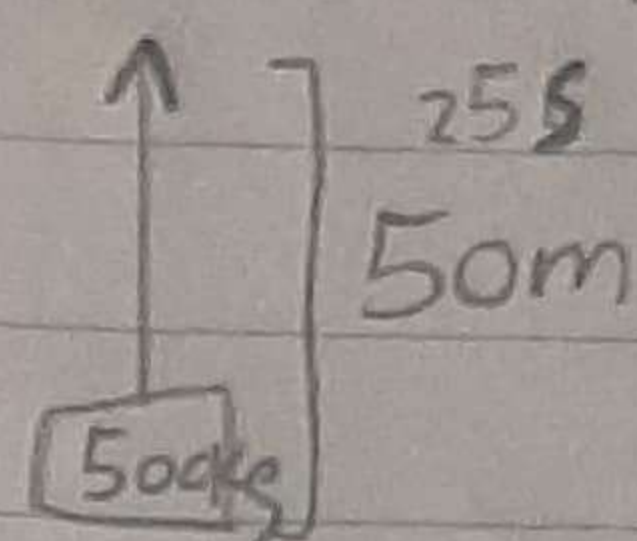
$$m = 500 \text{ kg}$$

$$h = 50 \text{ m}$$

$$T = 25 \text{ s}$$

$$1 \text{ cv} = 735,49875 \text{ W}$$

$$= 76 \text{ cv} \cdot 735,49875$$



$$a) E_{m_i} = E_{p_i} + E_{c_i} = 0$$

$$E_{p_i} = m \cdot g \cdot h^0 ; h = 0$$

$$E_{p_i} = 0$$

$$E_{c_i} = \frac{1}{2} \cdot m \cdot v^0 ; v = 0$$

$$E_{c_i} = 0$$

$$E_{m_f} = E_{p_f} + E_{c_f}$$

$$E_{p_f} = m \cdot g \cdot h ; h = 50 \text{ m} \quad E_{c_f} = \frac{1}{2} m v^0 ; v = 0$$

$$E_{p_f} = 500 \text{ kg} \cdot 9,81 \frac{\text{m}}{\text{s}^2} \cdot 50 \text{ m} \quad E_{c_f} = 0$$

$$E_{p_f} = 245.250 \text{ J}$$

$$W = \Delta E = E_f - E_i = 245.250 \text{ J} - 0 = 245.250 \text{ J}$$

b)

$$\text{Potencia ÚTIL} = \frac{W}{T}$$

$$9810 \text{ W} = \frac{245250 \text{ J}}{25 \text{ s}}$$

c)

$$\text{Rendimiento} = \frac{\text{Potencia ÚTIL}}{\text{Potencia consumida}} \cdot 100$$

$$R = \frac{9810 \text{ W}}{11767,98 \text{ W}} \cdot 100 = 83,36 \%$$