

Ejercicio N° 8. T1.

Datos

$$m = 20000 \text{ kg}$$

$$h = 10 \text{ m}$$

$$t = 1 \text{ min} = 60 \text{ s}$$

$$a) W = E_p = mgh = 20000 \cdot 9.8 \cdot 10 = 1960000 \text{ J}$$

b) Suponiendo un motor teórico (sin pérdidas)

$$P = \frac{W}{t} = \frac{1960000}{60} = 32666.66 \text{ W}$$

$$c) \eta = \frac{P_{\text{útil}}}{P_{\text{TOTAL}}} \cdot 100 = \frac{32666.66}{82000} \cdot 100 = 39.83\%$$

$$P_{\text{TOTAL}} = 82000 \text{ W}$$