22)

$P = 16cv = 11767,98\ W$

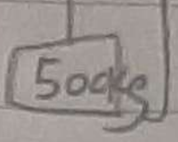
$1cv = 735,49875\ W$

$= 16cv \cdot 735,49875$

$m = 500\ kg$

$h = 50m$

$t = 25s$



a) $E_{m_i} = E_{P_i} + E_{C_i} = 0$

$E_{P_i} = m \cdot g \cdot \overset{0}{h}$; $h = 0$

$E_{P_i} = 0$

$E_C = \frac{1}{2} \cdot m \cdot \overset{0}{V}^2$; $V = 0$

$E_{C_i} = 0$

$E_{m_f} = E_{P_f} + E_{C_f}$

$E_{P_f} = m \cdot g \cdot h$; $h = 50m$

$E_C = \frac{1}{2} m V^2$; $V = 0$

$E_{P_f} = 500kg \cdot 9,81 \frac{m}{s^2} \cdot 50m$

$E_C = 0$

$E_{P_f} = 245.250\ J$

b) $W = \Delta E = E_f - E_i = 245250\ J - 0 = 245250\ J$

$Potencia\ Util = \frac{W}{t}$

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

c) $Rendimiento = \frac{Potencia\ Util}{Potencia\ consumida} \cdot 100$

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