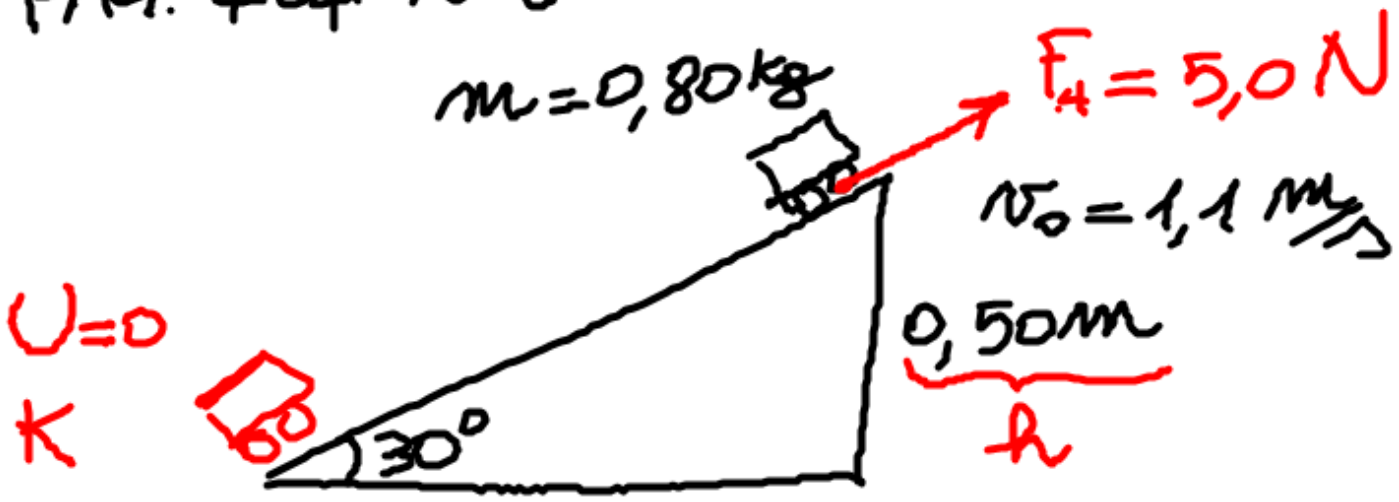
PAG. 464 N 6

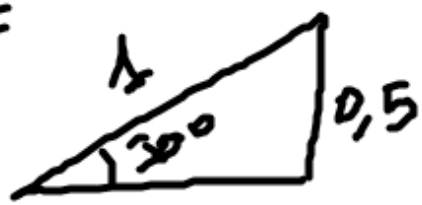


$$\mathcal{E}_{IN} = K_{IN} + U_{gIN} = \frac{1}{2} m v_0^2 + mgh$$

$$= \frac{1}{2}(0{,}80\,kg)\left(1{,}1\,\frac{m}{s}\right)^2 + (0{,}80\,kg)\left(9{,}8\,\frac{m}{s^2}\right)(0{,}50\,m)$$

$$= 4{,}404\,J = 4{,}4\,J$$

CALCOLIAMO L'ENERGIA ALLA BASE DEL PIANO INCLINATO



$$W_{NC} = \mathcal{E}_{FIN.} - \mathcal{E}_{IN.}$$

W_{NC}: LAVORO DELLA F. D'ATTRITO (DA CALCOLARE)

$\mathcal{E}_{FIN.}$: K_{BASE}

$\mathcal{E}_{IN.}$: CE L'ABBIAMO

$$W_{ATTRITO} = -(5{,}0\,N)(1{,}0\,m) = -5{,}0\,J$$

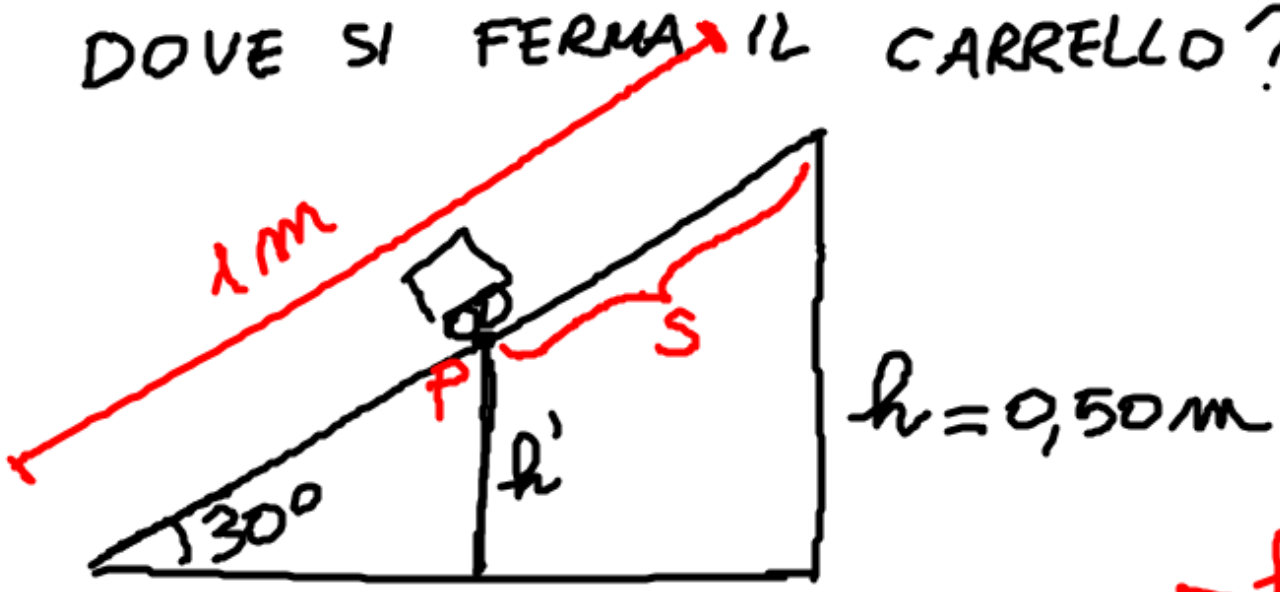
$$K_{BASE} = W_{NC} + \mathcal{E}_{IN} =$$

$$= -5{,}0\,J + 4{,}4\,J < 0$$

ASSURDO PERCHÉ $K \geq 0$

QUINDI <u>NON</u> RAGGIUNGE LA BASE

DOVE SI FERMA IL CARRELLO?



$h = 0{,}50\ m$

$(1-s) : h' = 1 : h \rightarrow h' = (1-s)h$

IN P C'È SOLO EN. POTENZIALE $\mathcal{E}_P = mgh'$

$\mathcal{E}_{IN} = 4{,}404\ J$

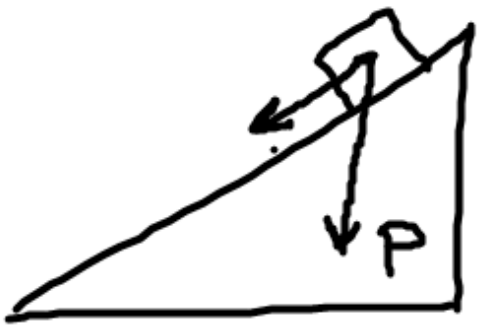
$\mathcal{E}_P - \mathcal{E}_{IN} = -F_A \cdot s$

$0{,}80 \cdot 9{,}8 \cdot 0{,}50(1-s) - 4{,}404 = -5{,}0\,s$

$3{,}92(1-s) - 4{,}404 = -5{,}0\,s$

$s = 0{,}45\ m$

$$S = \frac{\overbrace{v_{FIN}^2}^{0} - v_{IN}^2}{2a}$$



$$a = -\frac{F_A}{m} + \frac{g}{2}$$

$$S = \frac{-1{,}1^2}{2\left(-\frac{5{,}0}{9{,}80} + \frac{9{,}8}{2}\right)} = 0{,}448\,m \simeq$$

$$\simeq 0{,}45\,m$$