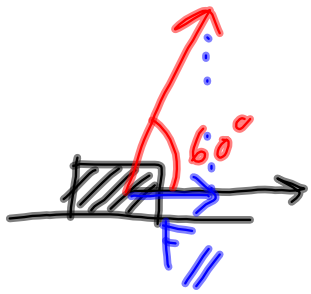
es. 10



$F = 10\ N$
$s = 5{,}0\ m$

$F \cdot s \cdot \cos\alpha$

$L = \vec{F} \cdot \vec{s} = F_{//} \cdot s = 5N \cdot 5{,}0m =$
$= 25\ J$

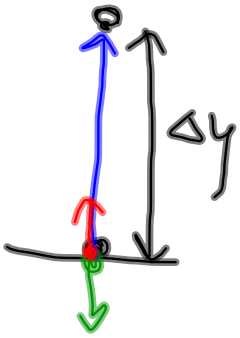
---

es. 12

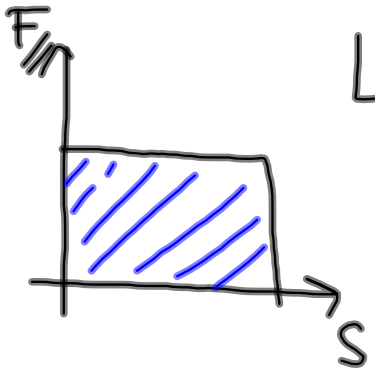
$L_P = -mg \cdot s$

$L_R = mgs$

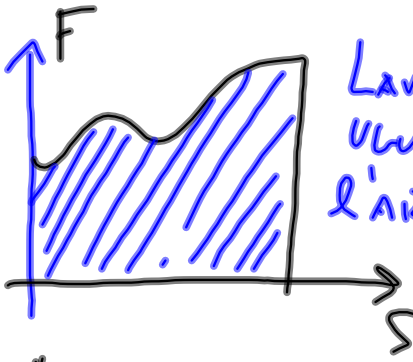
$L_{TOT} = 0$



Lavoro Forze non costanti



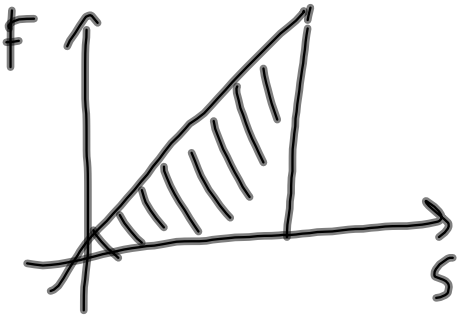
$L = F_{//} \cdot S$

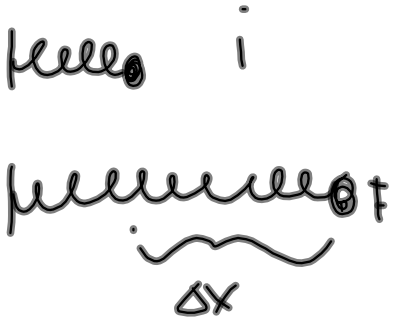


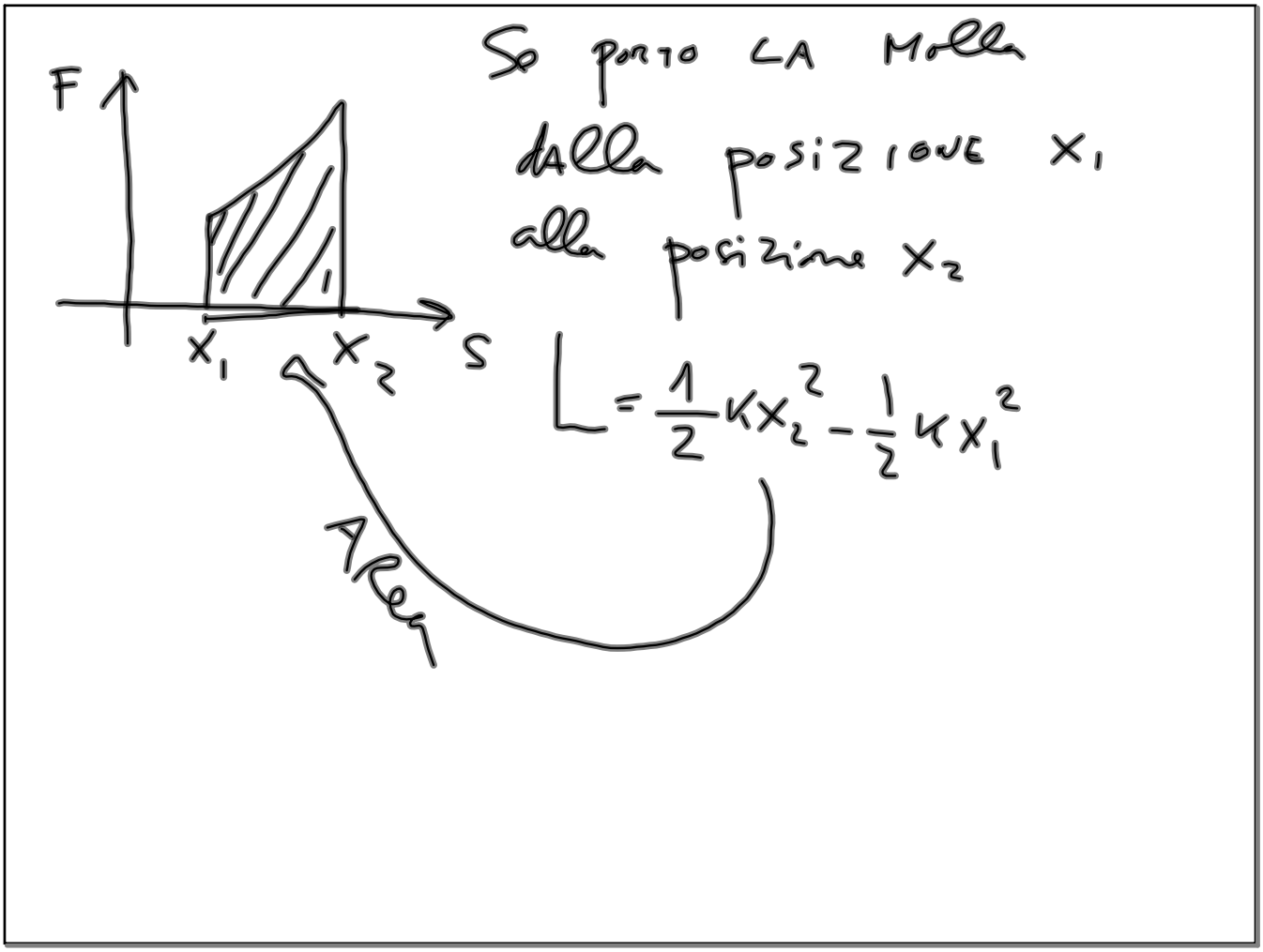
Lavoro è uguale a l'area

$F_e = K\Delta x$

$L = \frac{1}{2} K \Delta x^2$



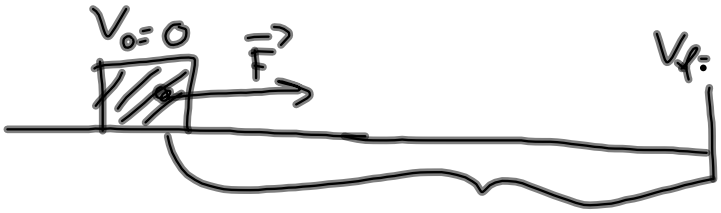



F
x_1
x_2
s
Se porto la Molla
dalla posizione x_1
alla posizione x_2
$L = \frac{1}{2}kx_2^2 - \frac{1}{2}kx_1^2$
Area

ENERGIA CINETICA $L = W$

$K = \frac{1}{2} m v^2$ ← Joule. $L_{AVORO} \longleftrightarrow K$

$$L_{TOT} = \frac{1}{2} m v_f^2 - \frac{1}{2} m v_i^2 = \Delta K$$

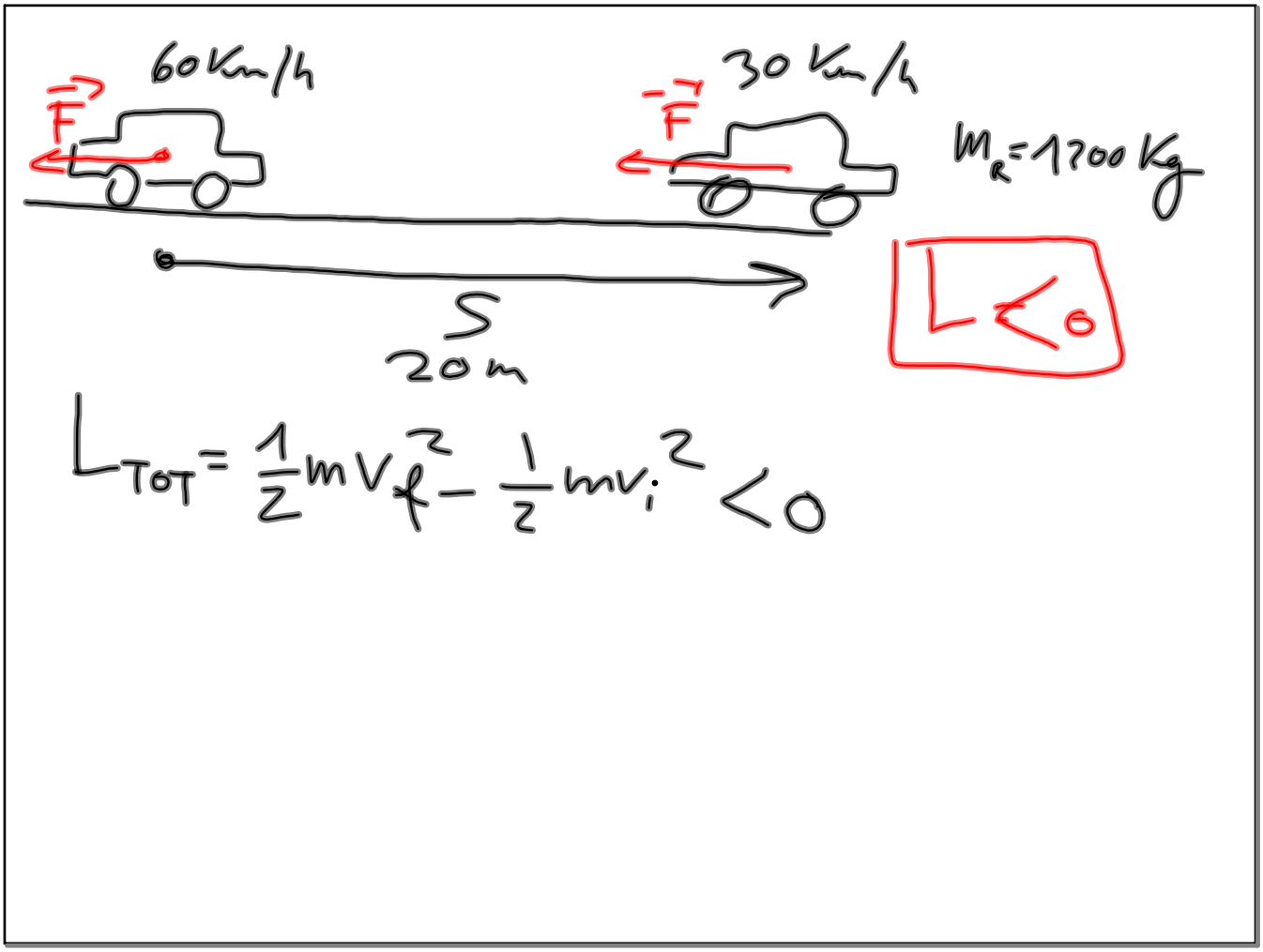


$S = 12\,m$
$m = 10\,Kg$
$V_i = 0$
$V_f = 3\,m/s$

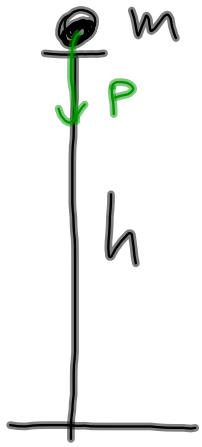
$L_{TOT} = \Delta K$

$F \cdot S = \frac{1}{2} m v_f^2 - \frac{1}{2} m v_i^2$ ($v_i = 0$)

$F = \frac{\frac{1}{2} m v_f^2}{S} = \frac{\frac{1}{2}(10\,Kg)(3\,m/s)^2}{12\,m}$



$$L_{TOT} = \frac{1}{2} m v_f^2 - \frac{1}{2} m v_i^2 < 0$$



$P = mg$

$L = mgh$

$\Delta K = \frac{1}{2} m v_f^2$

$\cancel{m} g h = \frac{1}{2} \cancel{m} v^2$

$v = \sqrt{2gh}$