$U_e = \frac{1}{2} k x^2$

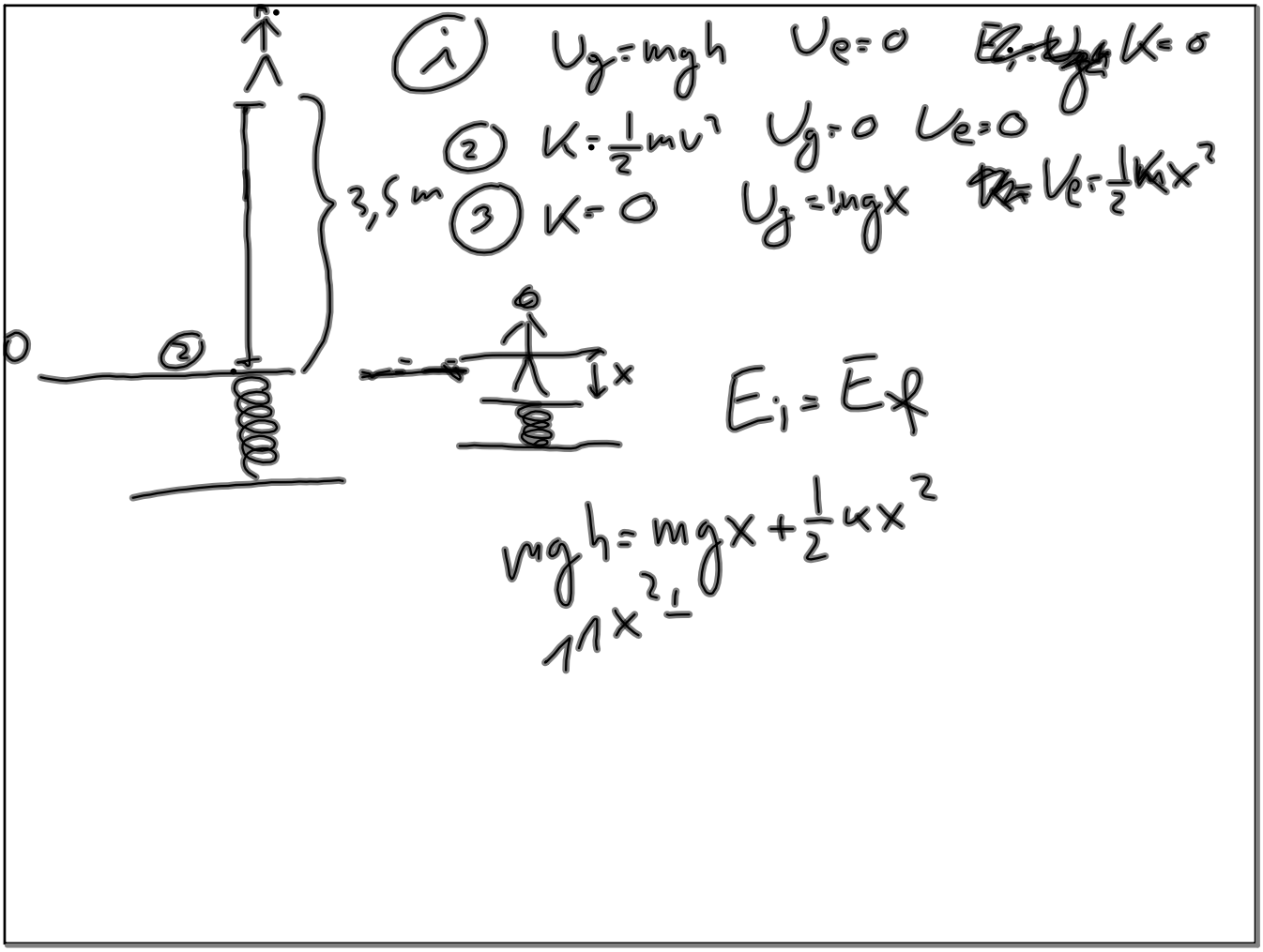
$E = U_e + U_g + K$

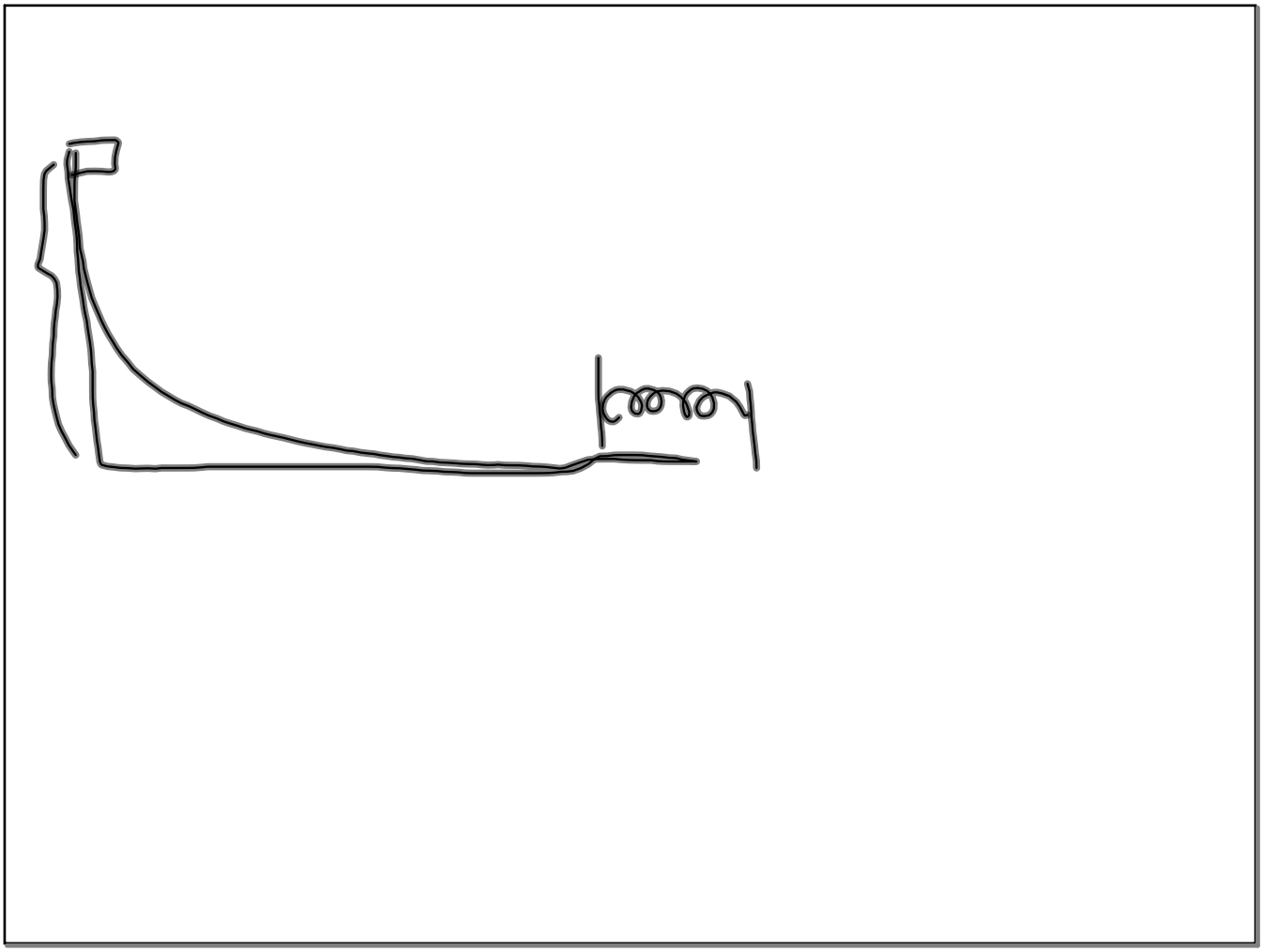
$\Delta U = U_f - U_i$

$E_i = U_e = \frac{1}{2} k x^2$

$v = cost$

$E_f = K = \frac{1}{2} m v^2$


(1) $U_g = mgh$ $U_e = 0$ $K = 0$
(2) $K = \frac{1}{2}mv^2$ $U_g = 0$ $U_e = 0$
(3) $K = 0$ $U_g = mgx$ $U_e = \frac{1}{2}kx^2$
3,5 m
x
$E_i = E_f$
$mgh = mgx + \frac{1}{2}kx^2$
x^2 1



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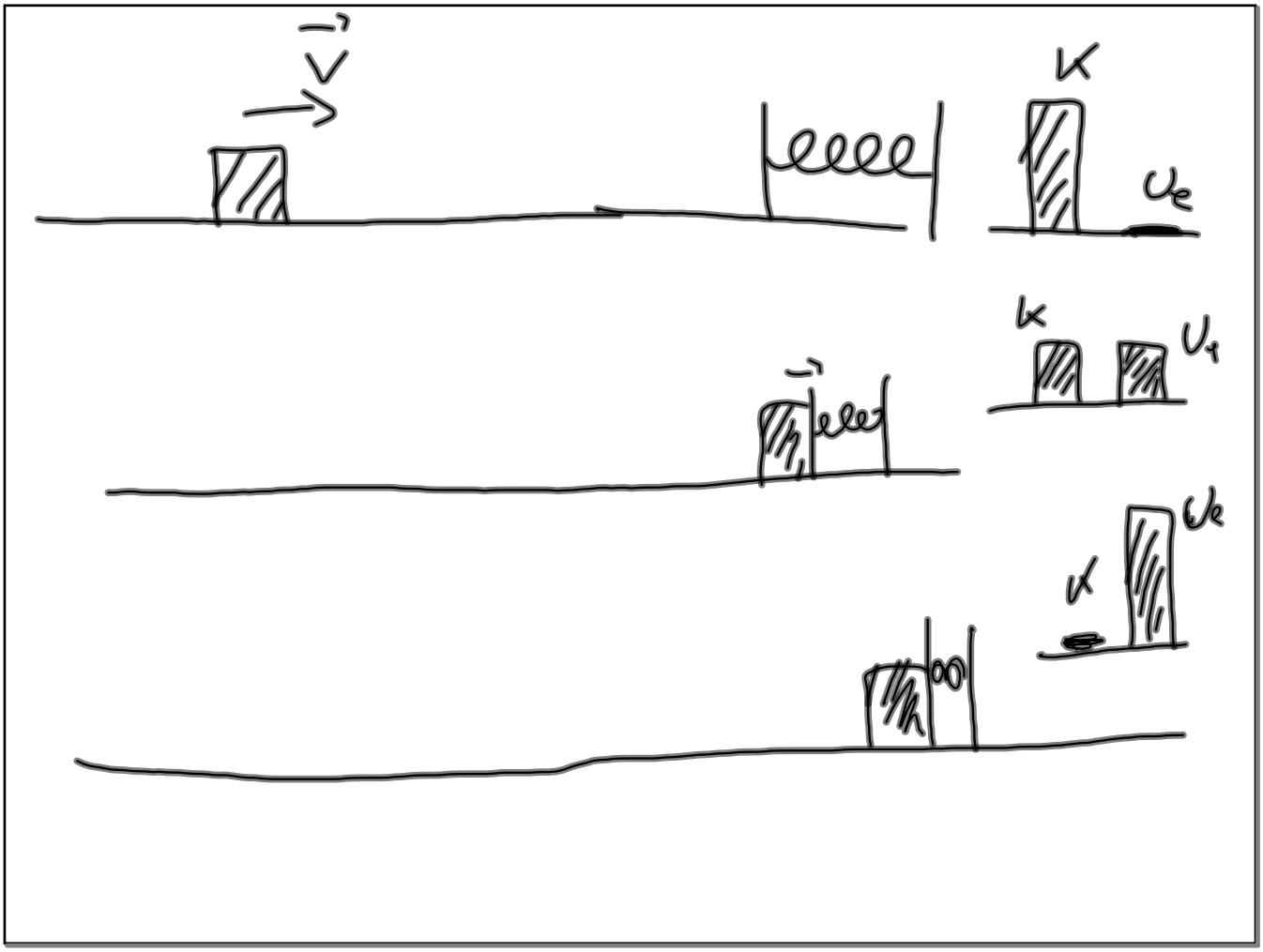


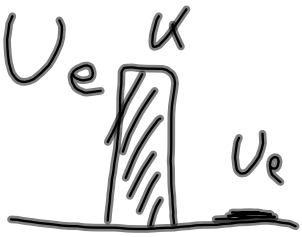
$x = 0$ cm

$K = \frac{1}{2}mv^2 = \frac{1}{2}(1{,}40\,kg)\left(0{,}950\,\frac{m}{s}\right)^2 = 0{,}0632\,J$

$U_e = 0$

$E = K + U_e$

$E_{TOT} = 0{,}0632\,J$



$x = 1{,}00$ m $\quad U_e = \frac{1}{2}kx^2 = \frac{1}{2}(734)(0{,}01)^2$