

10122

EXMA B

B1. A) 8)

B) $K_1 = \frac{1}{2} m v_1^2$
 $K_2 = \frac{1}{2} m v_2^2 \Rightarrow K_2 = \frac{1}{2} m (2v_1)^2 \Rightarrow K_2 = \frac{1}{2} m 4v_1^2$ } $\frac{K_2}{K_1} = 4$

$\Rightarrow \frac{K_1}{K_2} = \frac{\frac{1}{2} m v_1^2}{\frac{1}{2} m 4v_1^2} \Rightarrow \frac{K_1}{K_2} = \frac{1}{4} \Rightarrow K_2 = 4K_1$

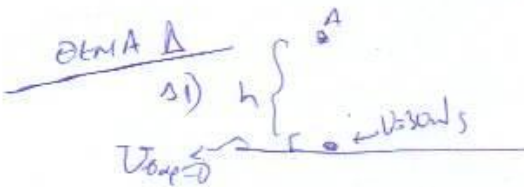
x	K
0	0
2x	2K
3x	3K
4x	4K

B2.) A)

B) $\Delta K = W_f \Rightarrow K - K_{\text{apx}} = W_f \Rightarrow K = W_f \Rightarrow K = F \cdot x$, 2px
 $K \propto x \times \text{work}$

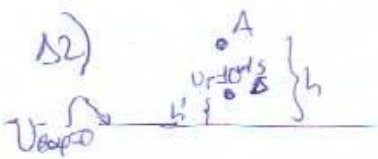
EXMA A

1)



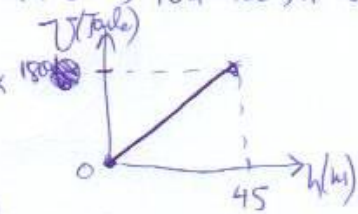
$E_{\text{tot}}^{(A)} = E_{\text{tot}}^{(0)} \Rightarrow \cancel{K} + U_A = K_0 + \cancel{U_0} \Rightarrow$
 $\Rightarrow mgh = \frac{1}{2} m v^2 \Rightarrow h = 4.5m$

2)



$E_{\text{tot}}^{(A)} = E_{\text{tot}}^{(0)} \Rightarrow \cancel{K} + U_A = K_0 + U_0$
 $\Rightarrow mgh = mgh' + \frac{1}{2} m v^2 \Rightarrow gh = gh' + \frac{v^2}{2}$
 $\Rightarrow 450 = 10h' + 50 \Rightarrow 10h' = 400 \Rightarrow h' = 40m$

3) $U = mgh \Rightarrow U = 40 \cdot h$, 2px



4) ~~...~~ $y = \frac{1}{2} g t^2 \Rightarrow 45 = \frac{1}{2} 10 \cdot t^2 \Rightarrow t = 3 \text{ sec}$

Tubo raió deuterpendente. má $t_1 = 2 \text{ sec}$ mas $t_2 = 3 \text{ sec}$

$\Delta h = \frac{1}{2} g t_2^2 - \frac{1}{2} g t_1^2 \Rightarrow \Delta h = 25m$, n zóstatu na diana 670

\rightarrow tubo raió deuterpendente no eutor. Apx

$W_3 = B \cdot \Delta h = mg \Delta h = 1000 J$