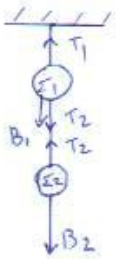
3772 pdf (ΑΠΑΝΤΗΣΗ)

ΘΕΜΑ Β

Β1) Α)



Β) (Σ_2): $\Sigma f_2 = 0 \Rightarrow T_2 = B_2$

(Σ_1): $\Sigma f_1 = 0 \Rightarrow T_1 = B_1 + T_2$

$T_1 = B_1 + B_2$

Β2) Α) γ)

Β) $d_1 = \frac{v_1^2}{2a}$ και $d_2 = \frac{v_2^2}{2a} = \frac{4v_1^2}{2a} = 4d_1$

ΘΕΜΑ Δ

Δ1) $T = \mu N \Rightarrow T = \mu mg = 200N$

Δ2) $\Sigma F = m \cdot a_1 \Rightarrow F_\Pi + F_M - T = ma_1 \Rightarrow a_1 = 1 m/s^2$

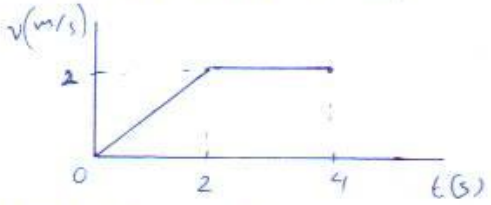
$x_1 = \frac{1}{2} a_1 t_1^2 \Rightarrow t_1 = \sqrt{\frac{2x_1}{a_1}} = 2s$

Δ3) $v_1 = a t_1 = 2 m/s$

Όταν ξεκινήσει η Μαρία ισχύει

$\Sigma F' = m \cdot a' \Rightarrow a' = 0$ Ε.Ο.Κ.

και $v_1 = 2 m/s$ σταθερή



Δ4) $W_{Fn} = F_n \cdot x_1 = 400J$

$P_{Fn} = \frac{\Delta W_{Fn}}{\Delta t} = F_n \cdot \frac{\Delta x}{\Delta t} = F_n \cdot v_1 = 400 J/s$