

5046 pdf (ΑΠΑΝΤΗΣΗ)

ΘΕΜΑ Β

B1) A) β)

$$B) v_{max} = \frac{v}{6} \Rightarrow t = \frac{1190}{340} \Rightarrow t = 3,5s$$

B2) A) α)

$$B) \left. \begin{array}{l} F = m_{\varphi} \cdot \alpha_{\varphi} \text{ για το } \varphi \text{ τυρό} \\ F = m_{IX} \cdot \alpha_{IX} \text{ για το } I.X. \end{array} \right\} \Rightarrow$$

$$m_{\varphi} \cdot \alpha_{\varphi} = m_{IX} \cdot \alpha_{IX} \Rightarrow \frac{m_{\varphi}}{m_{IX}} = \frac{\alpha_{IX}}{\alpha_{\varphi}} \xrightarrow{m_{\varphi} > m_{IX}} \alpha_{IX} > \alpha_{\varphi}$$

$$\left. \begin{array}{l} X_{\varphi}^{stop} = \frac{v^2}{2\alpha_{\varphi}} \\ X_{IX}^{stop} = \frac{v^2}{2\alpha_{IX}} \end{array} \right\} \Rightarrow \frac{X_{\varphi}^{stop}}{X_{IX}^{stop}} = \frac{\alpha_{IX}}{\alpha_{\varphi}} \Rightarrow X_{\varphi}^{stop} > X_{IX}^{stop}$$

ΘΕΜΑ Δ

$$\Delta 1) T = \mu N \xrightarrow{N=B} T = 20N$$

$$\Delta 2) W_F = E_{\text{αριθμητικος}} \Rightarrow W_F = \frac{(30+50) \cdot 4}{2} = 160J$$

$$\Delta 3) k_{T\eta} - k_{\varphi} x = W_F + W_T \Rightarrow \frac{1}{2} m v^2 = W_F - T x$$

$$\Rightarrow 5 v^2 = 80 \Rightarrow v^2 = 16 \Rightarrow v = 4 \text{ m/s}$$

$$\Delta 4) t_{stop} = \frac{v}{\alpha} \quad \text{οταν } \Sigma F = m \cdot \alpha \Rightarrow T = m \alpha \Rightarrow \alpha = 2 \text{ m/s}^2$$

$$\text{Αρα } t_{stop} = \frac{4}{2} = 2s$$