3768 pdf (ΑΠΑΝΤΗΣΗ)

ΘΕΜΑ Β

B_1) Α) β)

Β) $x_A = 6t \Rightarrow v_A = 6\,m/s$

$x_B = 2t^2$

$x_B = \frac{1}{2} a_B t^2$ $\Big\} \Rightarrow a_B = 4\,m/s^2$

$v_B = v_A \Rightarrow 6 = a_B t \Rightarrow t = 1,5\,s$

B_2) Α) γ)

Β) ΘΜΚΕ: $\Delta K = W_F \xrightarrow{W_F > 0} K_{τελ} > K_{αρχ}$

ΘΕΜΑ Δ

Δ1) $v_1 = v_0 - at_1 \Rightarrow 12 = 24 - 2a \Rightarrow a = 5\,m/s^2$

Δ2) $P_μ = \frac{W_F}{\Delta t} \Rightarrow W_F = 196\,J$

Δ3) $x = v_0 t + \frac{1}{2} a t^2 \Rightarrow x = 14\,m$

$W_F = F \cdot x \Rightarrow F = \frac{196}{14} = 14\,N$

Δ4) $\Sigma F = m \cdot a \Rightarrow F - T = m \cdot a \Rightarrow F - \mu mg = ma$

$m = 2\,kg$