

ΘΕΜΑ Α

A1) δ A2) β A3) δ A4) β A5) Σ, Σ, Σ, Λ, Λ

ΘΕΜΑ Β

B1) α) $\Delta x = x_3 - x_1 = -35m - (-25m) \Rightarrow \Delta x = -10m$

β) $A \rightarrow B: s_1 = 85m, B \rightarrow \Gamma: s_2 = 95m$
 $s_{\alpha} = s_1 + s_2 = 85m + 95m \Rightarrow s_{\alpha} = 180m$

B2) 1) Από επίλυση: $u = -10m/s$ Σωστό το (γ)

11) $x = 20 - 10t (sI)$

$t_1 = 1s; x_1 = 20 - 10 \cdot 1 \Rightarrow x_1 = 10m$

$t_2 = 7s; x_2 = 20 - 10 \cdot 7 \Rightarrow x_2 = -50m$

$\Delta x = x_2 - x_1 = -50m - (10m) \Rightarrow \Delta x = -60m$ Σωστό το (β)

B3) $u_A = \frac{\Delta x_A}{\Delta t_A} = \frac{4x_1 - 0}{t - 0} = \frac{4x_1}{t}$ (1)

Από (1)/(2) $\Rightarrow u_A = 2u_B$ Σωστό το (β)

$u_B = \frac{\Delta x_B}{\Delta t_B} = \frac{4x_1 - 2x_1}{t - 0} = \frac{2x_1}{t}$ (2)

B4) $s_1 + s_2 = d \Rightarrow u_1 t + u_2 (t - 5) = d \Rightarrow 12t + 8(t - 5) = 960 \Rightarrow$
 $\Rightarrow 12t + 8t - 40 = 960 \Rightarrow 20t = 1000 \Rightarrow t = 50s$ α

$s_1 = u_1 t = 12 \cdot 50 \Rightarrow s_1 = 600m$ Σωστό το (β)

ΘΕΜΑ Γ

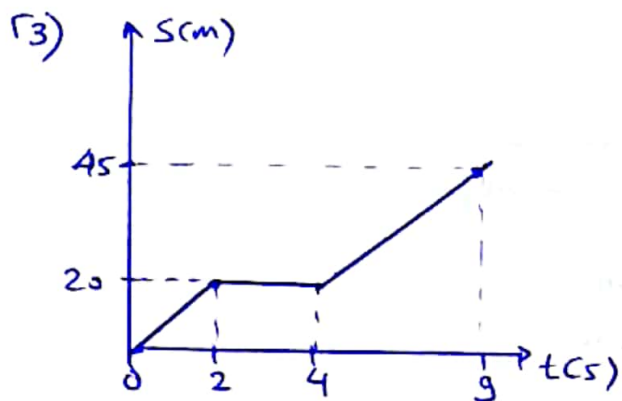
Γ1) 0-2s: Εοκ με $u_1 = 10m/s = 6τεθερμ$
 $\Delta x_1 = E_1 = 2 \cdot 10m \Rightarrow \Delta x_1 = 20m, s_1 = 20m$

2s-4s: Ακίνητα, $\Delta x_2 = 0, s_2 = 0$

4s-6s: Εοκ με $u_3 = -5m/s$, Αντίθετης φοράς.
 $\Delta x_3 = E_3 = 5(-5)m \Rightarrow \Delta x_3 = -25m, s_3 = 25m$

$s_{\alpha} = s_1 + s_2 + s_3 = 45m$

$r_2) S_{01} = 45m$
 $v_{\mu} = \frac{S_{01}}{t_{01}} = \frac{45m}{9s} \Rightarrow v_{\mu} = 5m/s$



$r_4)$

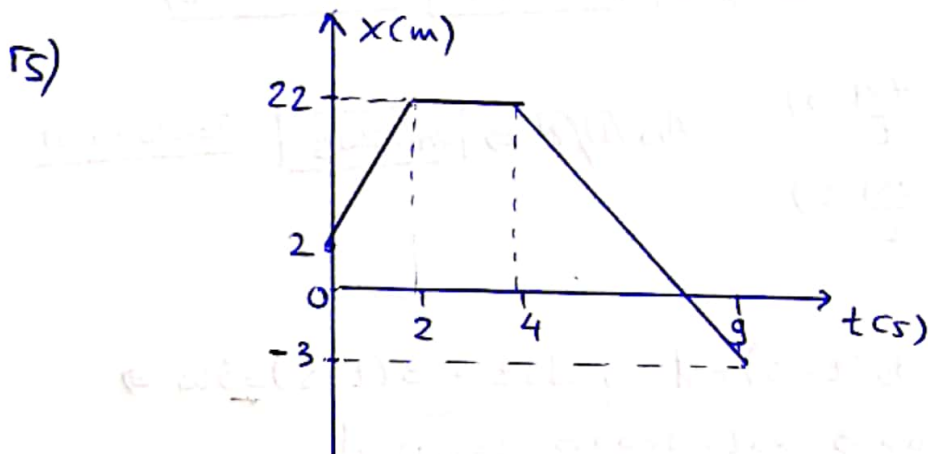
$$x_0 = +2m$$

$$x_1 = \Delta x_1 + x_0 = 20m + 2m = +22m$$

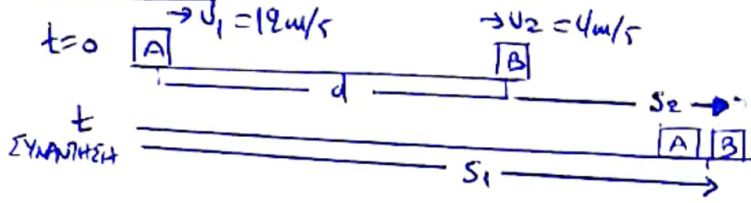
$$x_2 = \Delta x_2 + x_1 = 0m + 22m = 22m$$

$$x_3 = \Delta x_3 + x_2 = -25m + 22m = -3m$$

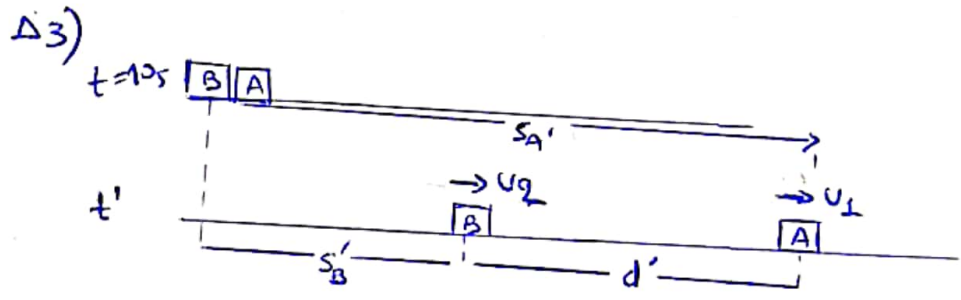
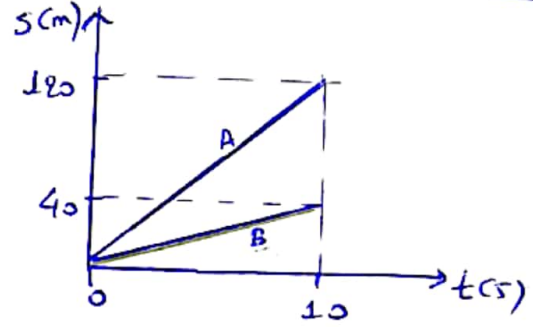
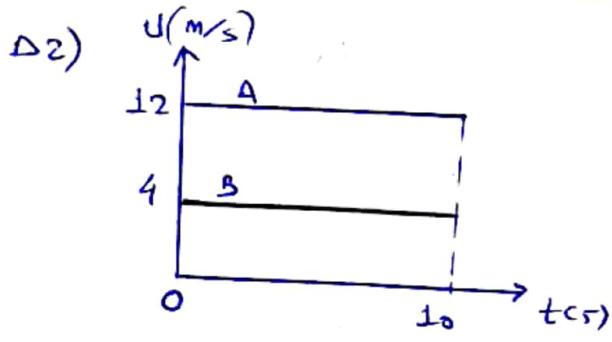
Δt	t_{0px}	x_{0px}	t_{0cx}	x_{0cx}	Δx
0-2s	0s	2m	2s	22m	20m
2s-4s	2s	22m	4s	22m	0m
4s-9s	4s	22m	9s	-3m	-25m



ΘΕΜΑ Δ



Δ1) $S_1 = d + S_2 \Rightarrow u_1 t = d + u_2 t \Rightarrow 12t = 80 + 4t \Rightarrow 8t = 80 \Rightarrow \boxed{t = 10s}$
 $S_1 = u_1 t = 12 \cdot 10 \Rightarrow \boxed{S_1 = 120m}$ For $S_2 = u_2 t = 4 \cdot 10 \Rightarrow \boxed{S_2 = 40m}$



$S_{A'} = S_{B'} + d' \Rightarrow 12 \cdot \Delta t = 4 \Delta t + 120 \Rightarrow 8 \Delta t = 120 \Rightarrow \Delta t = 15sec$
 And $t' = t + \Delta t = 10s + 15sec \Rightarrow \boxed{t' = 25sec}$

Δ4) $x_A = u_1 t \Rightarrow \boxed{x_A = 12t (SI)}$

$x_B = x_0 + u_2 t \Rightarrow \boxed{x_B = 80 + 4t (SI)}$

- Για $t=0$: $x_A = 0m$
- Για $t=10s$: $x_A = 120m$
- Για $t=25s$: $x_A = 300m$
- Για $t=0$: $x_B = 80m$
- Για $t=10s$: $x_B = 120m$
- Για $t=25s$: $x_B = 180m$

