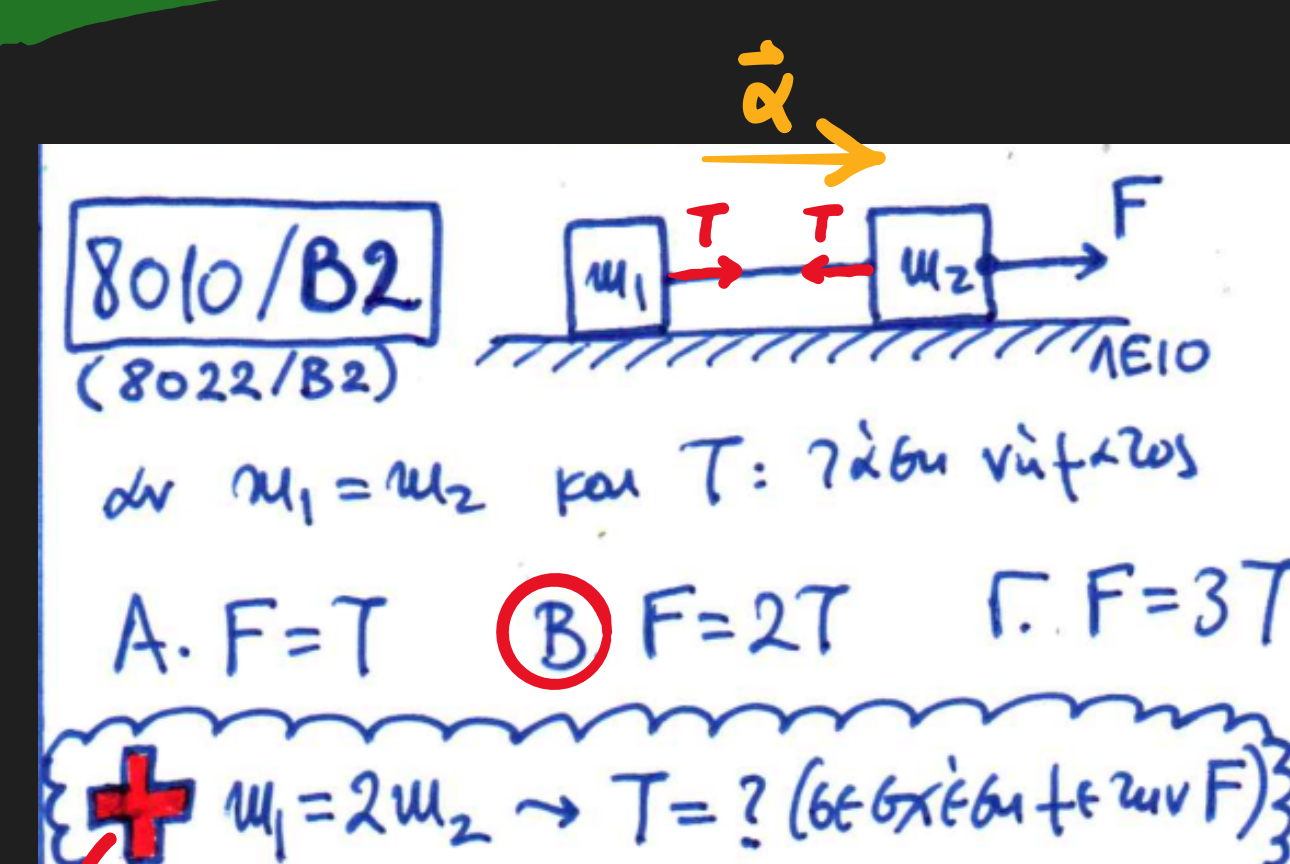


A1

1^ο ΓΕΛ
ΣΑΛΑΜΙΝΑΣ

15.1.2025



81x
2x
6x6m

$$\Sigma F = m_{\text{ολ}} \cdot \alpha \Rightarrow F = (m_1 + m_2) \alpha \Rightarrow$$

$$\Rightarrow F = (2m_2 + m_2) \alpha \Rightarrow F = 3m_2 \alpha \Rightarrow$$

$$\Rightarrow \alpha = \frac{F}{3m_2}$$

81x
2x
6x6m

$$\Sigma F_1 = m_1 \cdot \alpha \Rightarrow T = 2m_2 \cdot \frac{F}{3m_2} \Rightarrow T = \frac{2F}{3}$$

Για 20 σύστημα:

$$\Sigma F = m_{\text{ολ}} \cdot \alpha$$

$$F = (m_1 + m_2) \cdot \alpha$$

$$F = (m + m) \cdot \alpha$$

$$F = 2m \cdot \alpha$$

$$\alpha = \frac{F}{2m}$$

Μόνο για 20 m1:

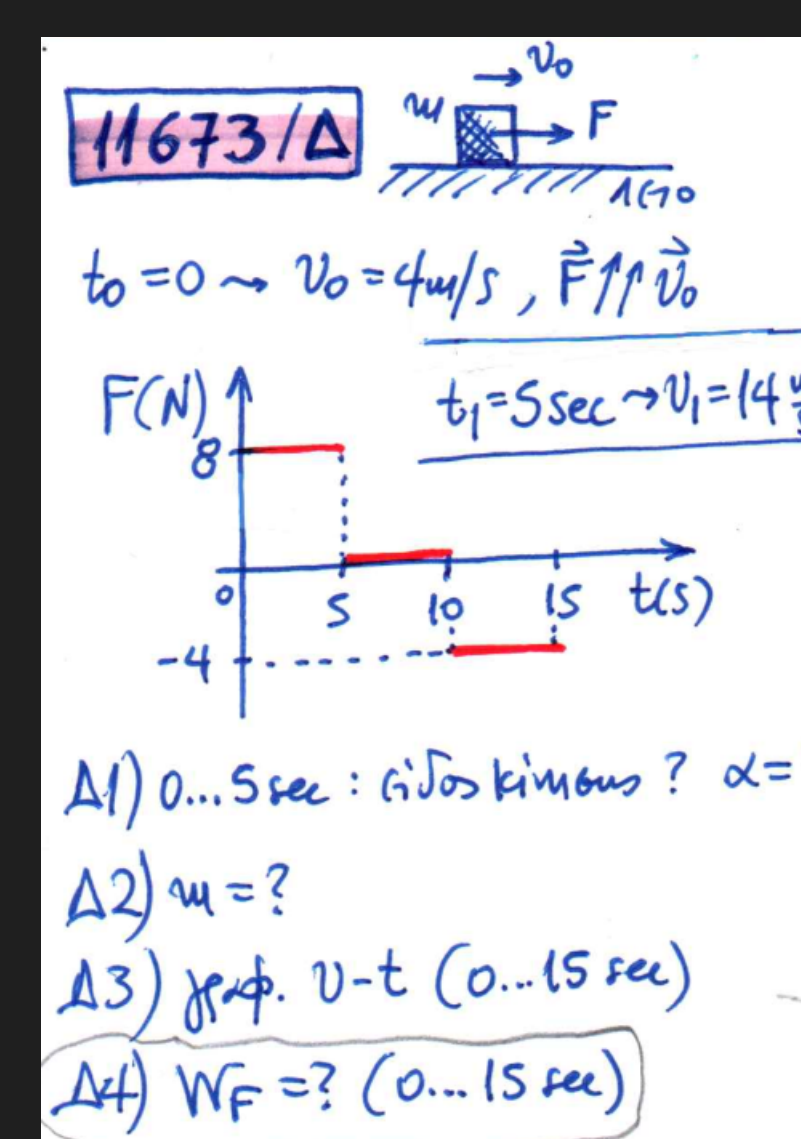
$$\Sigma F_1 = m_1 \cdot \alpha$$

$$T = m \cdot \alpha$$

$$T = \frac{F}{2}$$

$$T = \frac{F}{2}$$

$$F = 2T \sim \text{Β}$$



Δ1: Ακίνο επιπλέον: $\Sigma F = F$
 $F = 8 \text{ N} \Rightarrow \Sigma F = 8 \text{ N} \Rightarrow \alpha = 6 \text{ m/s}^2$

ΕΟΕκ με v_0

$$v_1 = v_0 + \alpha t_1 \Rightarrow 14 = 4 + \alpha \cdot 5 \Rightarrow 14 - 4 = \alpha \cdot 5 \Rightarrow$$

$$\Rightarrow 10 = \alpha \cdot 5 \Rightarrow \alpha = 2 \text{ m/s}^2$$

Δ2: $\Sigma F_1 = m \cdot \alpha_1 \Rightarrow F_1 = m \cdot \alpha_1 \Rightarrow 8 = m \cdot 2 \Rightarrow m = 4 \text{ kg}$

Δ3: $t_0=0 \rightarrow v_0=4 \text{ m/s}$

$$t_1=5 \text{ s} \rightarrow v_1=14 \text{ m/s}$$

$$t_1=5 \text{ sec} \dots t_2=10 \text{ sec} : F=0 \Rightarrow \Sigma F=0 \Rightarrow \alpha=0 \Rightarrow v=6 \text{ m/s} \text{ (const)} \Rightarrow v_2=v_1 \Rightarrow v_2=14 \text{ m/s}$$

$$t_2=10 \text{ sec} \dots t_3=15 \text{ sec} : F=-4 \text{ N} < 0 \Rightarrow \alpha_3 = \frac{F}{m} = \frac{-4}{4} \Rightarrow \alpha_3 = -1 \text{ m/s}^2$$

Επιβ επιβραίνω

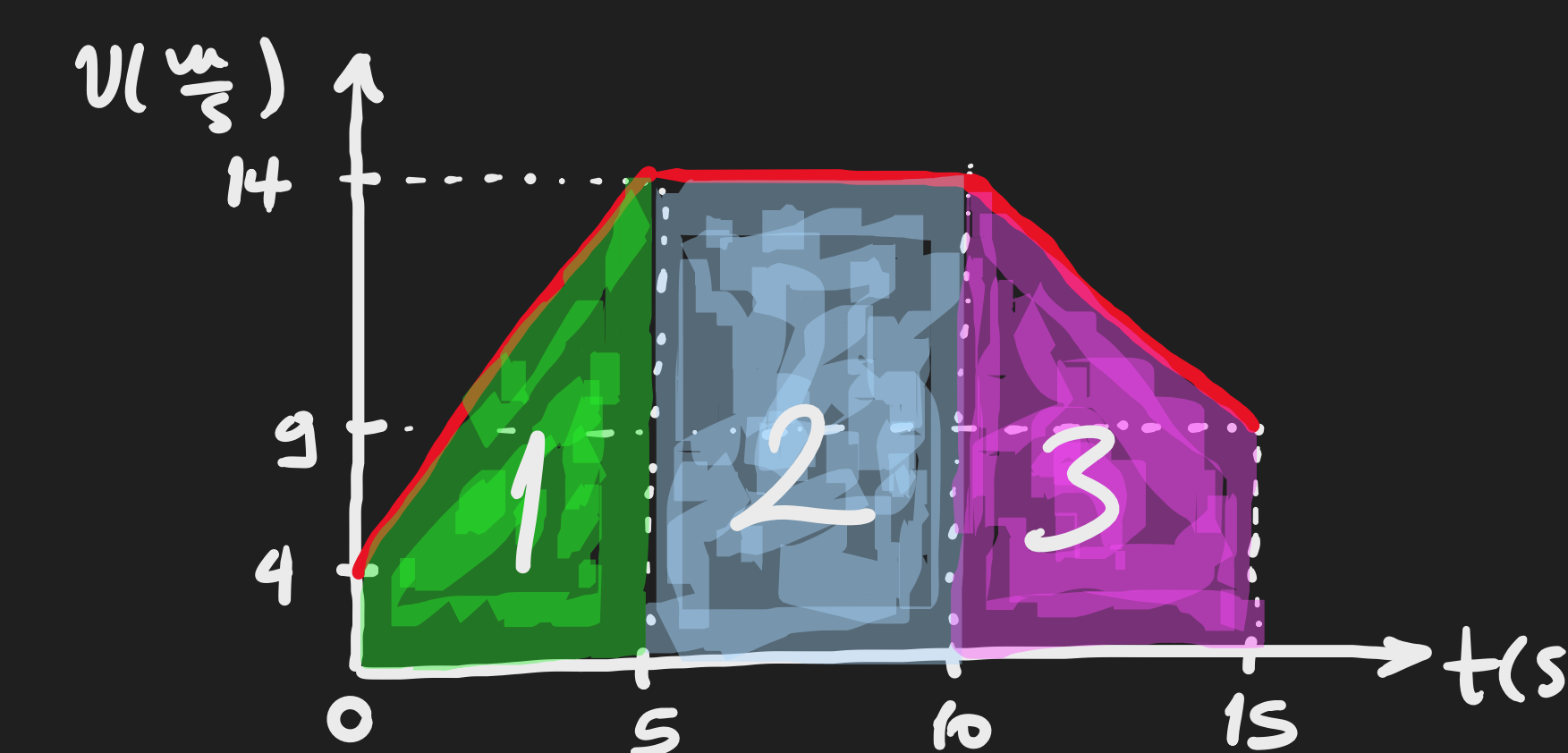
ΕΟΕκ με

ακίνο κίνηση

$$v_2=14 \text{ m/s}$$

$v = v_0 - \alpha t$

$$v_3 = v_2 - |\alpha_3| \cdot \Delta t_3 = 14 - 1 \cdot 5 \Rightarrow v_3 = 9 \text{ m/s}$$



$$\Delta x_1 = \frac{(b+B) \cdot \gamma}{2} = \frac{(4+14) \cdot 5}{2} = 45 \text{ m}$$

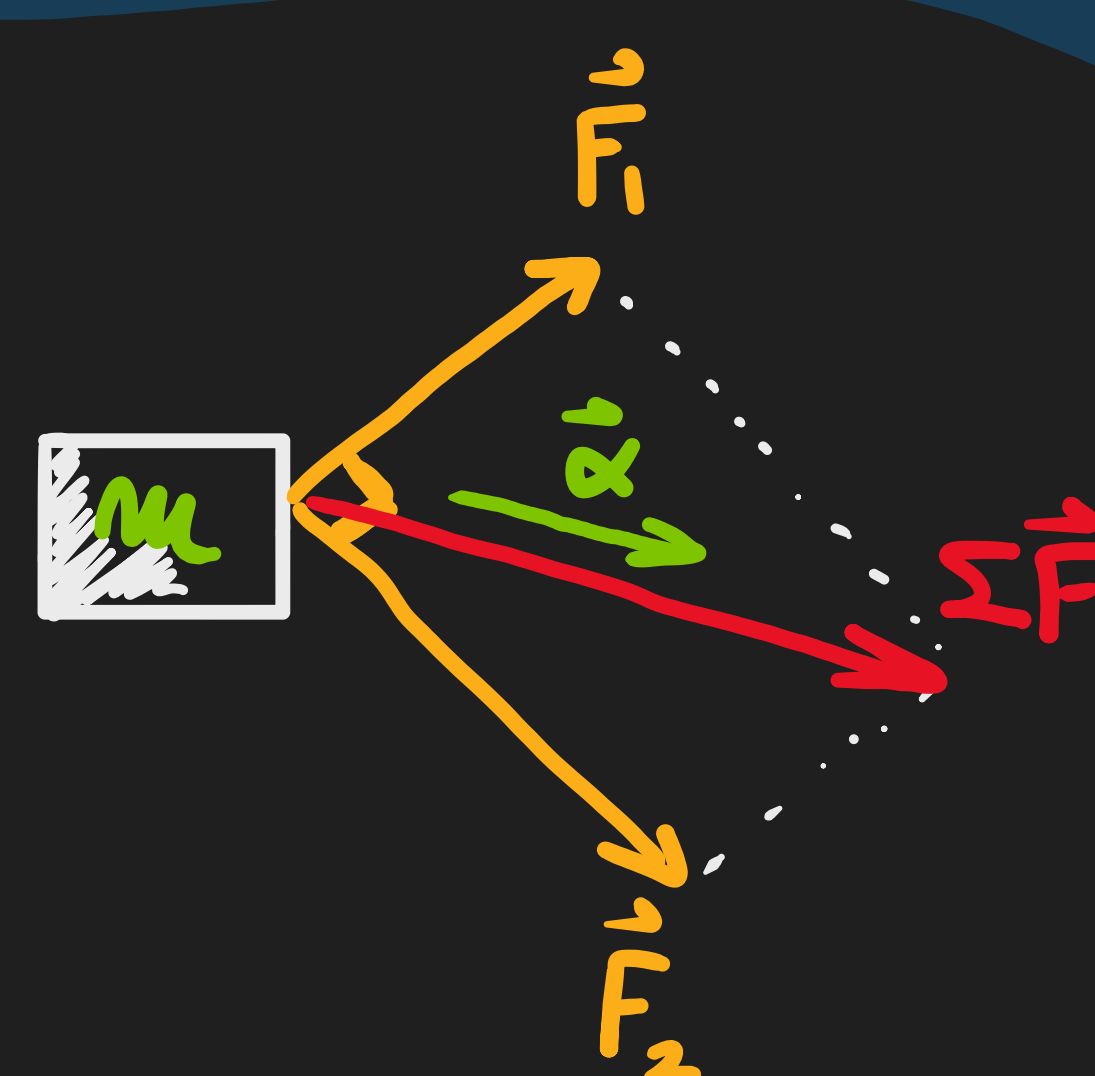
$$\Delta x_2 = b \cdot \gamma = 5 \cdot 14 = 70 \text{ m}$$

$$\Delta x_3 = \frac{(b+B) \cdot \gamma}{2} = \frac{(9+14) \cdot 5}{2} = 57.5 \text{ m}$$

$$\Delta x_{\text{ολ}} = \Delta x_1 + \Delta x_2 + \Delta x_3 = 45 + 70 + 57.5 \Rightarrow$$

$$\Rightarrow \Delta x_{\text{ολ}} = 172.5 \text{ m}$$

8008/B2 8014/B1
 $m=2 \text{ kg}$: Α. $\alpha=3.5 \text{ m/s}^2$
 $\vec{F}_1 \perp \vec{F}_2$ Β. $\alpha=2.5 \text{ m/s}^2$
 $F_1=3 \text{ N}$ Γ. $\alpha=0.5 \text{ m/s}^2$
 $F_2=4 \text{ N}$



$$\Sigma F = \sqrt{F_1^2 + F_2^2} =$$

$$= \sqrt{3^2 + 4^2} =$$

$$= \sqrt{9 + 16} = \sqrt{25} = 5 \text{ N}$$

$$\alpha = \frac{\Sigma F}{m} = \frac{5}{2} \Rightarrow \alpha = 2.5 \frac{\text{m}}{\text{s}^2}$$

Β