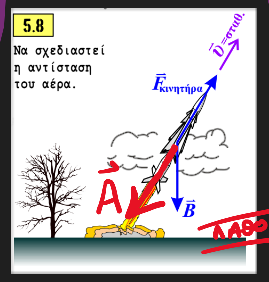
Τρ 22-12-20

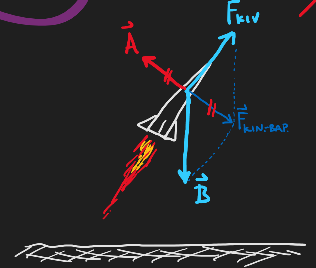
PHYSICS

A4

1ο ΓΕΛ ΣΑΛΑΜΙΝΑΣ

5.8





$\vec{υ}$ = σταθερό.

⇓

$\Sigma\vec{F} = 0$

⇓

$\vec{A} = -\vec{F}_{κιν-βαρ.}$

$|\vec{A}| = |\vec{F}_{κιν-βαρ}|$

και

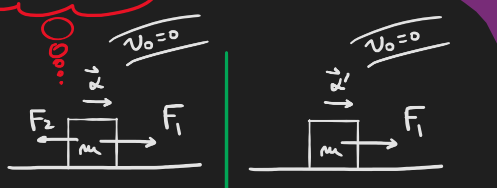
$\vec{A} \uparrow\downarrow \vec{F}_{κιν-βαρ}$

5.11 (Τ)

αφού έχω από τα σχήματα ότι $\vec{α}$: προς τα δεξιά

άρα: $F_1 > F_2 \Rightarrow \Sigma F = F_1 - F_2$

(και όχι $\Sigma F = F_2 - F_1$)



αν καταργηθεί η F_2 τότε $α' = 2α$

$\Sigma F = mα$	$\Sigma F' = m \cdot α'$
$F_1 - F_2 = mα$	$F_1 = m \cdot 2α$

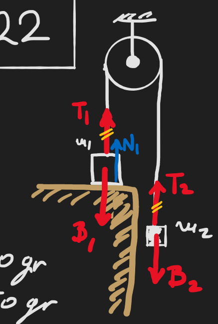
$F_1 = 2 \cdot (F_1 - F_2) \Rightarrow$

$\Rightarrow F_1 = 2F_1 - 2F_2 \Rightarrow$

$\Rightarrow 2F_2 = 2F_1 - F_1 \Rightarrow$

$\Rightarrow \boxed{2F_2 = F_1}$ ⇝ (A.)

5.22



$m_1 = 200\ gr$

$m_2 = 50\ gr$

$g = 10\ m/s^2$

$N_1 = ?$

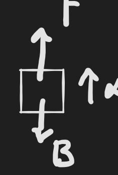
$T_1 = T_2$ (λόγω αβαρούς νήματος)

(όχι λόγω δράσης-αντίδρασης)

- $\Sigma F_2 = 0 \Rightarrow T_2 = B_2 = m_2 \cdot g = 50 \cdot 10^{-3} \cdot 10 = 0{,}5\ N$ (gr → kg)
- $T_1 = T_2 = 0{,}5\ N$
- $\Sigma F_1 = 0 \Rightarrow T_1 + N_1 = B_1 \Rightarrow T_1 + N_1 = m_1 \cdot g \Rightarrow$

$\Rightarrow 0{,}5 + N_1 = 200 \cdot 10^{-3} \cdot 10 \Rightarrow 0{,}5 + N_1 = 2 \Rightarrow \boxed{N_1 = 1{,}5\ N}$ (gr → kg)

6.6 (Τ)



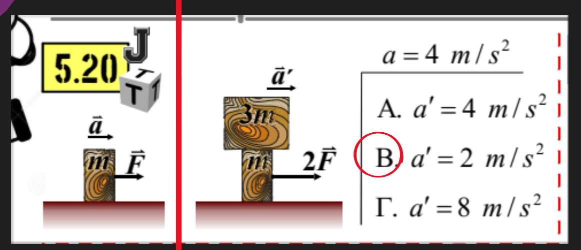
$\Sigma F = mα \Rightarrow F - B = m \cdot α \Rightarrow$

$\Rightarrow F - B = m \cdot \frac{g}{3} \Rightarrow$

$\Rightarrow F - B = \frac{B}{3} \Rightarrow F = B + \frac{B}{3} \Rightarrow$

$\Rightarrow \boxed{F = \frac{4B}{3}}$ ⇝ (B.)

5.20



$\Sigma F = mα$	$\Sigma F' = m'α'$
$F = m \cdot α$	$2F = 4m \cdot α'$
$F = m \cdot 4$	$F = 2 \cdot m \cdot α'$

$m' = m + 3m = 4m$

$m \cdot 4 = 2 \cdot m \cdot α' \Rightarrow$

$\Rightarrow \boxed{α' = 2\ m/s^2}$ ⇝ B.