Φυσική Β κατεύθυνσης 2015. Λύσεις

Θέμα Α. $A_1 - β$, $A_2 - γ$, $A_3 - δ$, $A_4 - δ$, $A_5 - δ$.

Θέμα Β. B_1 - A) γ. B) $υ = ω \cdot r$.

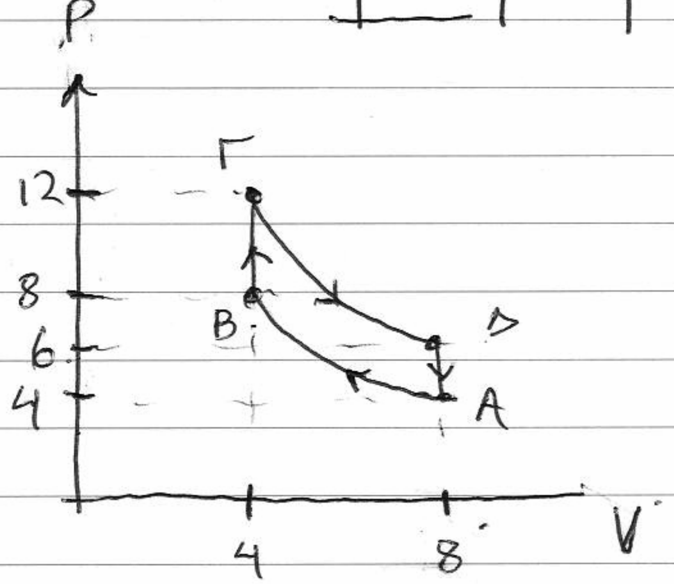
B_2 A) β B) $P_{πριν} = P_{μετά} \Rightarrow mυ = 4mV \Rightarrow$
$V = \frac{υ}{4}$.

$P_{1μετά} = \frac{mυ}{4}$ Άρα $ΔP = \frac{mυ}{4} - mυ \Rightarrow$

$ΔP = -\frac{3mυ}{4}$.

B_3) **Θέμα Γ.**

	A	B	Γ	Δ
P	4	8	12	6
V	8	4	4	8
T	1600	1600	2400	2400



$W_{AB} = -2240\ J$.
$W_{ΓΔ} = 3360\ J$.
$W_{ολ} = 1120\ J$.

$e = \frac{W_{ολ}}{Q_{BΓ} + Q_{ΓΔ}}$

$$e = \frac{1120}{2400+3360} \approx \dots$$

Θέμα Δ

Δ1) $P_{\pi\rho\iota\nu} = P_{\mu\epsilon\tau\dot{\alpha}} \Rightarrow P_{\mu} = 0{,}32\ kg\,m/s.$

Δ2) $\Delta P_B = -0{,}32\ kg\,m/s.$

Δ3) $\Sigma F = \frac{\Delta P}{\Delta t} = 3{,}2\,N.$

Δ4) $K_{\pi\rho\iota\nu} = \frac{1}{2} m v_1^2 = 2\,J.$

$K_{\mu\epsilon\tau\dot{\alpha}} = \frac{1}{2} m v_2^2 + \frac{1}{2} M V^2 = 0{,}336\,J.$

$\Delta K = 1{,}664\,J.$

$\pi = \frac{\Delta K}{K_{\pi\rho\iota\nu}} \cdot 100\% = 83{,}2\%$