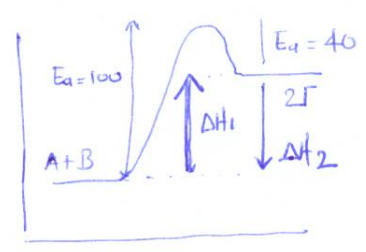


THEMA A

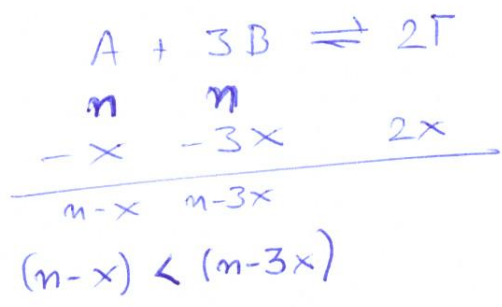
A1 (γ)

A2 (β)

$$U = \frac{U_{H_2O}}{2} \Rightarrow U_{H_2O} = 2U$$



A5
(γ)

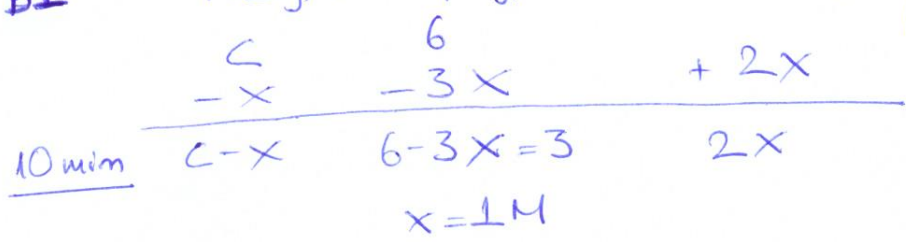


A3 (γ)

A4 (β)

THEMA B

B1

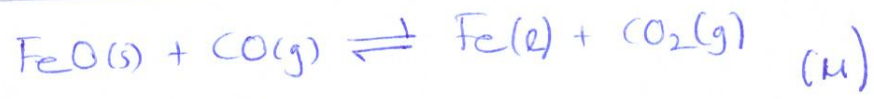


(B) $[NH_3] = 2M$

10 min

(a) $U = -\frac{1}{3} \frac{\Delta [H_2]}{\Delta t} = -\frac{1}{3} \frac{3-6}{10} = 0,1 M/min$

B2



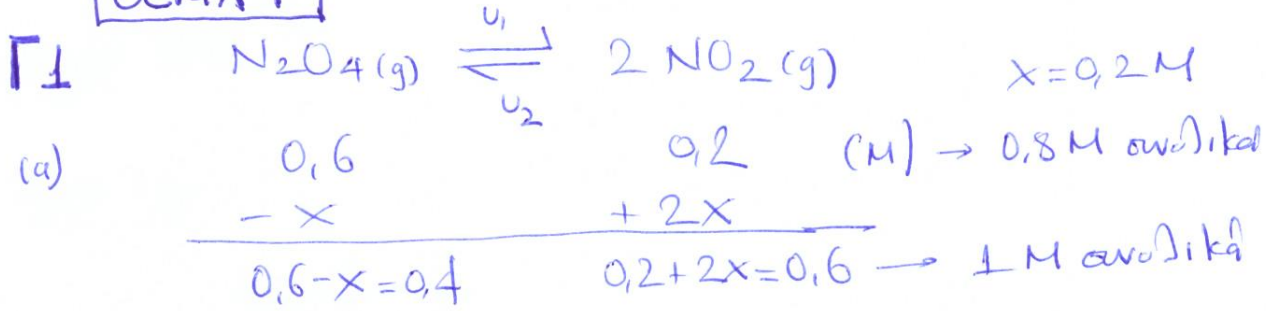
$$K_c = \frac{[CO_2]}{[CO]}$$

B3 $K_c = \frac{x}{c-x}$ $\Rightarrow x = \frac{10}{11} c$ \wedge $c = \frac{11}{10} x$

$$K_c = \frac{\frac{10}{11} c}{c - \frac{10}{11} c} = \frac{\frac{10}{11} c}{\frac{1c-10c}{11}} = \frac{10c}{c} \Rightarrow \boxed{K_c = 10}$$

- B4
- $\boxed{1}$ T_1 Πιο ψηφός οξυτατικός \rightarrow καταλύτης
 - $\boxed{2}$ T_2 Πιο αργός οξυτατικός
 - $\boxed{3}$ T_2 το B οξυτατικός Πιο αργός.
 $T_2 < T_1$

ΘΕΜΑ Γ

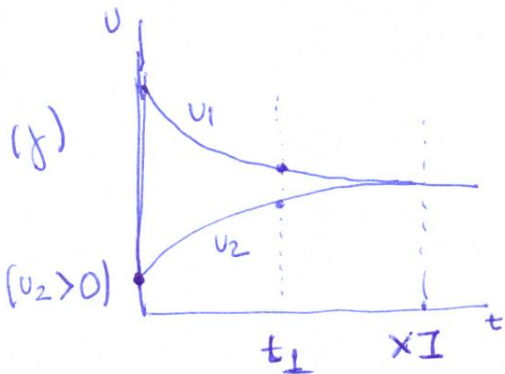


$$K_c = \frac{0,6 \cdot 0,6}{0,4^2} = \frac{3 \cdot 0,6^{0,3}}{2} \Rightarrow \boxed{K_c = 0,9}$$

(b) $P \sim n$ για $\frac{n_{\pi\alpha} - n_{\alpha\pi x}}{n_{\alpha\pi x}} \approx \frac{C_{\pi\alpha} - C_{\alpha\pi x}}{C_{\alpha\pi x}} = \frac{1 - 0,8}{0,8} = \frac{+0,2}{0,8}$

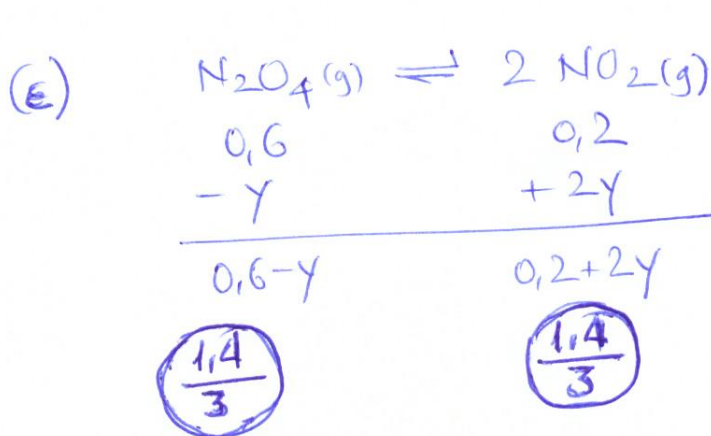
$P \sim C$

$= +\frac{1}{4}$ Αύξηση κατά 25%



Υπάρχει αρακτική u_2 για $u_2 \neq 0$

(δ) t_1 πριν από xI για $v_1 > v_2$



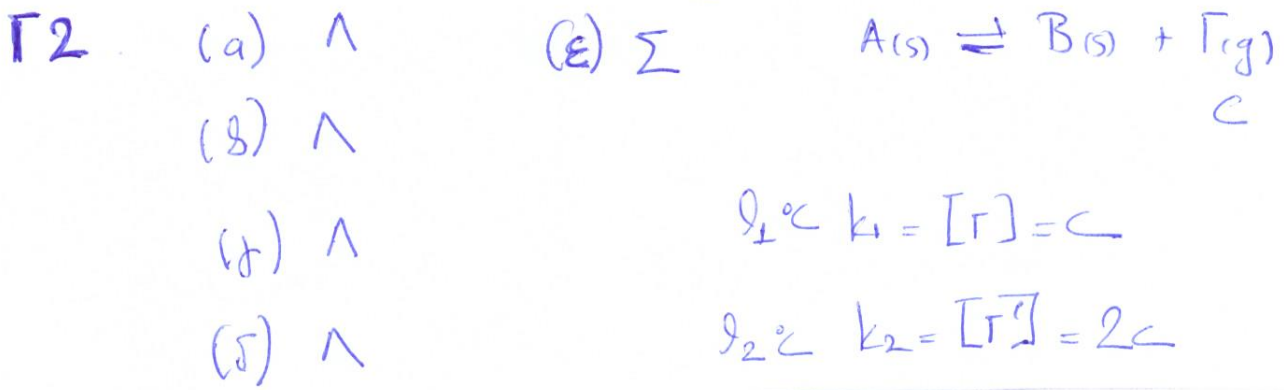
Πρέπει $0,6 - y = 0,2 + 2y \Rightarrow$

$$0,4 = 3y \Rightarrow y = \frac{4}{30}$$

(XI)

$$[N_2O_4(g)] = 0,6 - \frac{0,4}{3} = \frac{1,8 - 0,4}{3} = \frac{1,4}{3} M$$

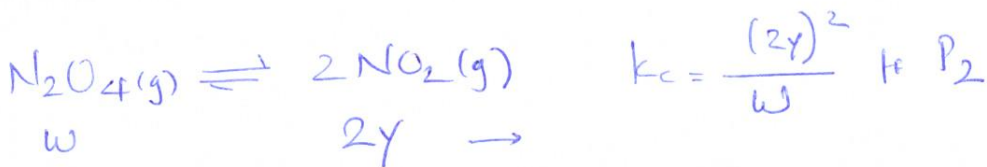
$$[NO_2] = \frac{0,6 + 2 \cdot 0,4}{3} = \frac{0,6 + 0,8}{3} = \frac{1,4}{3} M$$



ΘΕΜΑ Δ



$k_c = \frac{y^2}{x} \text{ σε } P_1$



λοξωσα $\frac{y^2}{x} = \frac{4y^2}{w} \Rightarrow w = 4x$ η x I ητα τωριε τηκε
 τπος τα αριε τερα.

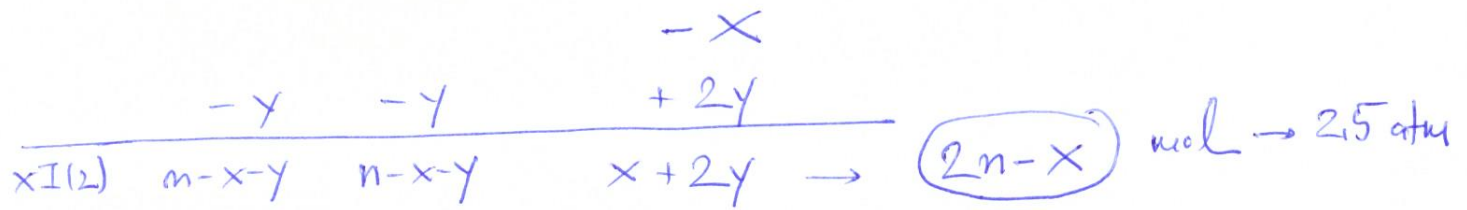
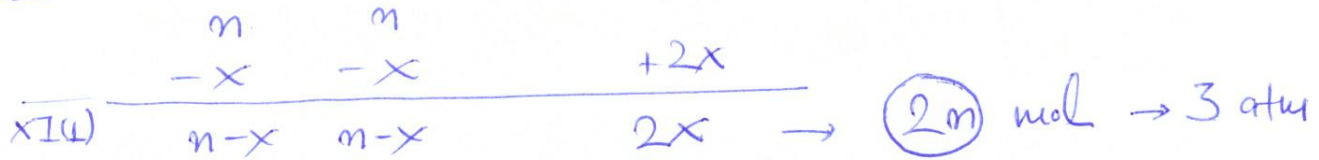
x I ητα τωριε τηκε τπος τα αριε τερα μελ αεριων : αρα V ηαωρεταε.

(β) (iii) $[N_2O_4]' = 4x$

(γ) μελ η P_1 ειναι $(x+y)$
 μελ η P_2 ειναι $(4x+2y)$

$\frac{P_2}{P_1} = \frac{4x+2y}{x+y} = \frac{2x+(2x+2y)}{x+y}$ αρα $P_2 > 2P_1$ $\left. \vphantom{\frac{P_2}{P_1}} \right\} 2P_1 < P_2 < 4P_1$

$\frac{P_2}{P_1} = \frac{(4x+4x)-2y}{x+y}$ αρα $P_2 < 4P_1$ (iv)



$$\frac{2m}{2m-x} = \frac{3}{2,5} \Rightarrow \boxed{n=3x} \quad K_c = \frac{\left(\frac{2x}{V}\right)^2}{\left(\frac{2x}{V}\right)^2} \Rightarrow \boxed{K_c=1}$$

$$xI(2): K_c = \frac{\left(\frac{x+2y}{V}\right)^2}{\left(\frac{2x-y}{V}\right)^2} \Rightarrow 1 = \frac{x+2y}{2x-y} \Rightarrow \boxed{x=3y}$$

$$\text{Apa } \left. \begin{array}{l} n=3x \\ x=3y \end{array} \right\} n=9y \quad d = \frac{x+2y}{2m} = \frac{5y}{18y} \Rightarrow \boxed{a = \frac{5}{18}}$$

