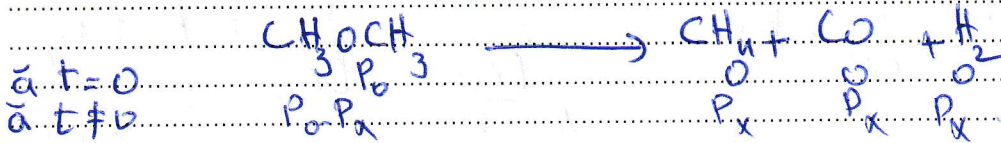


Solution Série N°1:

Exercice 1: Soit la réaction $\text{CH}_3\text{OCH}_3 \rightarrow \text{CH}_4 + \text{CO} + \text{H}_2$
1/ Détermination de l'ordre de la réaction:



$$P_T = P_0 = 420 \text{ mm Hg}$$

$$P_T = P_0 - P_x + P_x + P_x = P_0 + 2P_x \Rightarrow P_x = \frac{P_T - P_0}{2}$$

$$-\int_{[A]_0}^{[A]} \frac{d[A]}{[A]} = k [A] \Rightarrow - \int_{[A]_0}^{[A]} \frac{d[A]}{[A]} = k t$$

$$- \ln [A] \Big|_{[A]_0}^{[A]} = k t$$

$$\ln [A]_0 / [A] = k t$$

$$\ln \frac{P_0}{P_0 - P_x} = k t$$

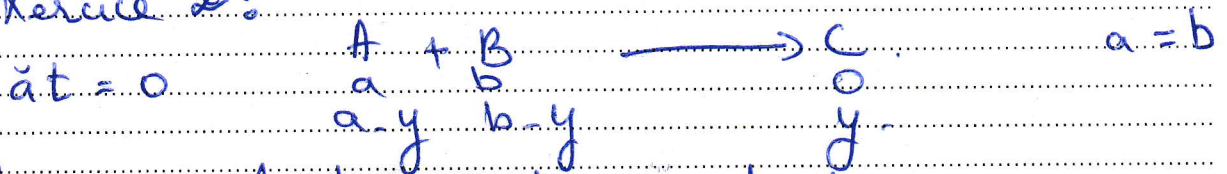
$$\Rightarrow \ln \frac{P_0}{P_0 - \frac{P_T - P_0}{2}} = k t$$

$$\ln \frac{2P_0}{3P_0 - P_T} = k t$$

En trace $\ln \frac{2P_0}{3P_0 - P_T} = f(t)$.

\Rightarrow Une droite par l'origine O de pente k.
 $k = 0,00365$

Exercice 2:



1/ La constante de vitesse k et $t_{1/2}$:

$$-\frac{d[A]}{dt} = \frac{d[C]}{dt} = k (a-y)(b-y) = k (a-y)^2 = k [A]^2$$