$$k = A\, e^{-E_a/RT}$$

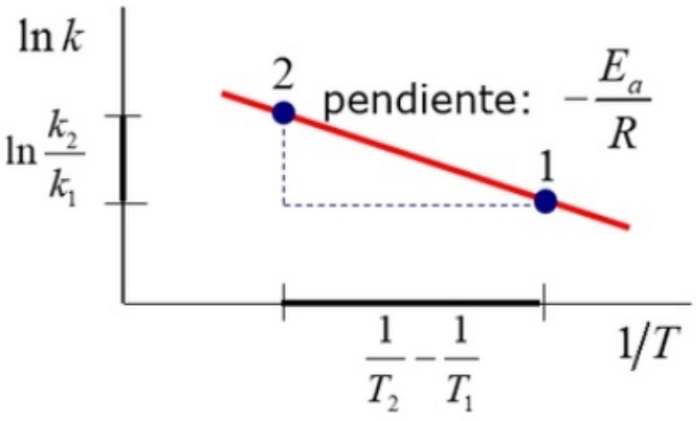
$$\ln k = \ln A - \frac{E_a}{RT}$$

$$\ln k_2 = \ln A - \frac{E_a}{RT_2}$$

$$\ln k_1 = \ln A - \frac{E_a}{RT_1}$$

$$\ln k_2 - \ln k_1 = -\frac{E_a}{R}\left(\frac{1}{T_2} - \frac{1}{T_1}\right)$$

$$\boxed{\ln \frac{k_2}{k_1} = -\frac{E_a}{R}\left(\frac{1}{T_2} - \frac{1}{T_1}\right)}$$



como $\ln A = \ln A \rightarrow$ A = suele ser concentración inicial

$\ln A = \ln(K_2) + \frac{Ea}{RT_2}$

$\ln(A) = \ln(K_1) + \frac{Ea}{RT_1}$

iguales

$\ln(K_2) + \frac{Ea}{RT_2} = \ln(K_1) + \frac{Ea}{RT_1}$

$\ln(K_2) - \ln(K_1) = \ln\left(\frac{K_2}{K_1}\right)$

$\ln\left(\frac{K_2}{K_1}\right) = \frac{Ea}{RT_2} - \frac{Ea}{RT_1}$

$$\ln\left(\frac{K2}{K1}\right) = -\frac{Ea}{R}\left(\frac{1}{T2} - \frac{1}{T1}\right)$$

como $\ln\left(\frac{K2}{K1}\right) = \ln(K2) - \ln(K1)$

$-\frac{Ea}{R}$ = pendiente

$$\ln(K2) - \ln(K1) = -\frac{Ea}{R}\left(\frac{1}{T2} - \frac{1}{T1}\right)$$

$$y2 - y1 = m(x_2 - x1)$$

$$\frac{y2 - y1}{x_2 - x1} = m \longrightarrow \text{por eso } \frac{Ea}{R}$$

es la pendiente

OJO

si usamos

$$\ln\left(\frac{K1}{K2}\right) = +\frac{Ea}{R}\left(\frac{1}{T1} - \frac{1}{T2}\right)$$