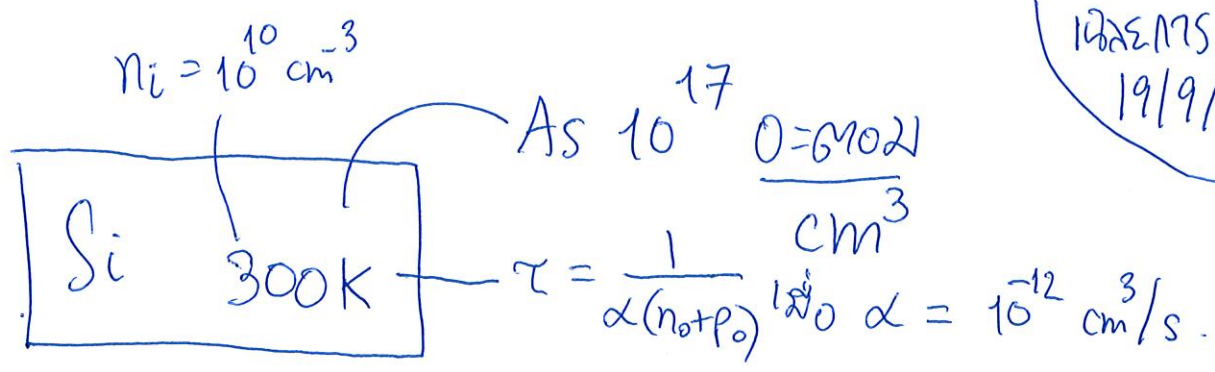
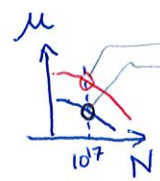


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	electron	hole
Concentration ①	$n_0 = 10^{17}$	$p_0 = 10^3$ /cm ³
mobility ②	$\mu_n = 800$	$\mu_p = 350$ cm ² /V·s
diffusion coeff. (diffusivity) ③	$D_n = 20.8$	$D_p = 9.1$ cm ² /s
diffusion length ④	$L_n = 0.014$	$L_p = 0.0095$ cm



x 0.026

$\sqrt{D\tau}$

hints:

- ① mass action law ($n_0 p_0 = n_i^2$)
- ② usual $\mu-N$ (c4, slide #5)
- ③ Einstein Relation ($D/\mu = kT/q$)
- ④ Diffusion Equ. $L = \sqrt{D\tau}$

$\tau_n = \tau_p = \frac{1}{10^{-12} (10^{17} + 10^3)}$ s
 $= 10^{-5}$ s