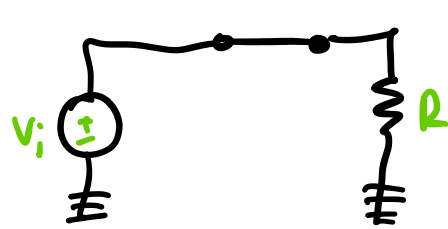
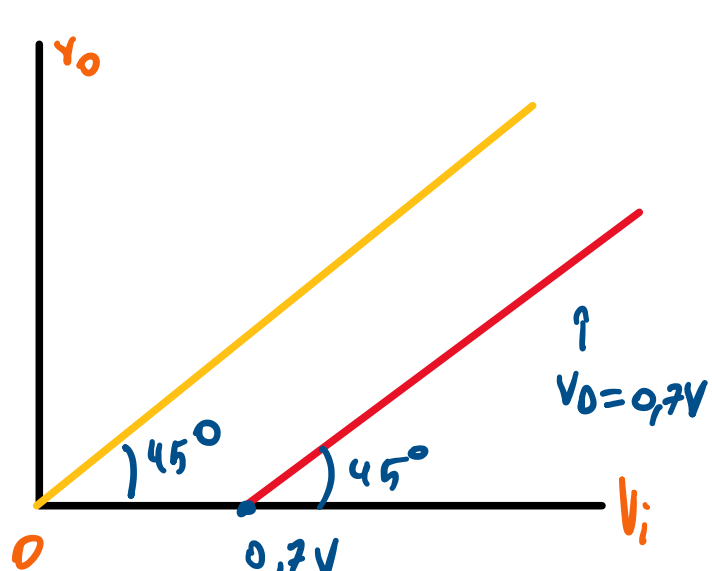
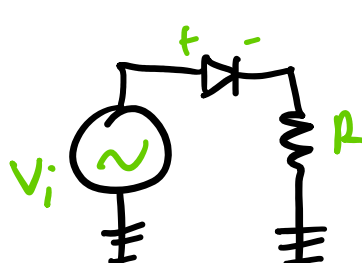
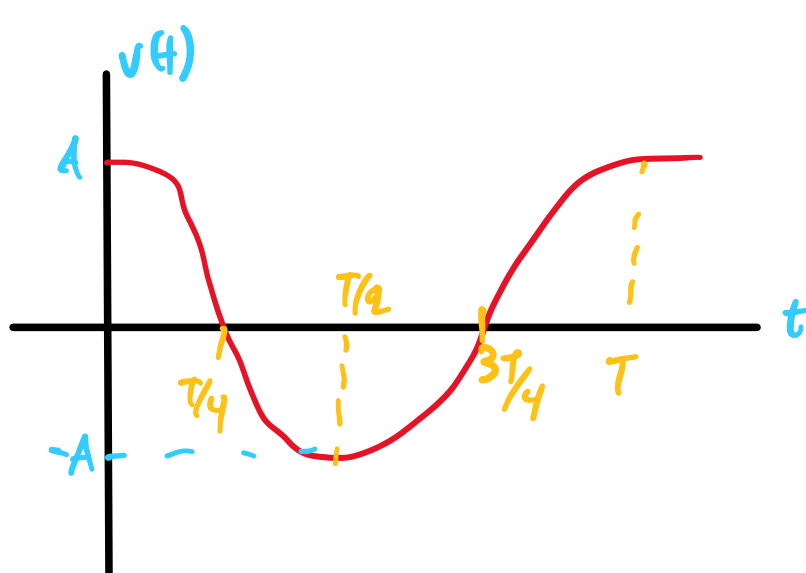


- $A_V \quad v_i < 0 \Rightarrow D_{off} \Rightarrow v_o = 0V \quad (\text{diode } i=0)$
- $A_V \quad v_i > 0 \Rightarrow D_{on} \Rightarrow v_o = v_i$

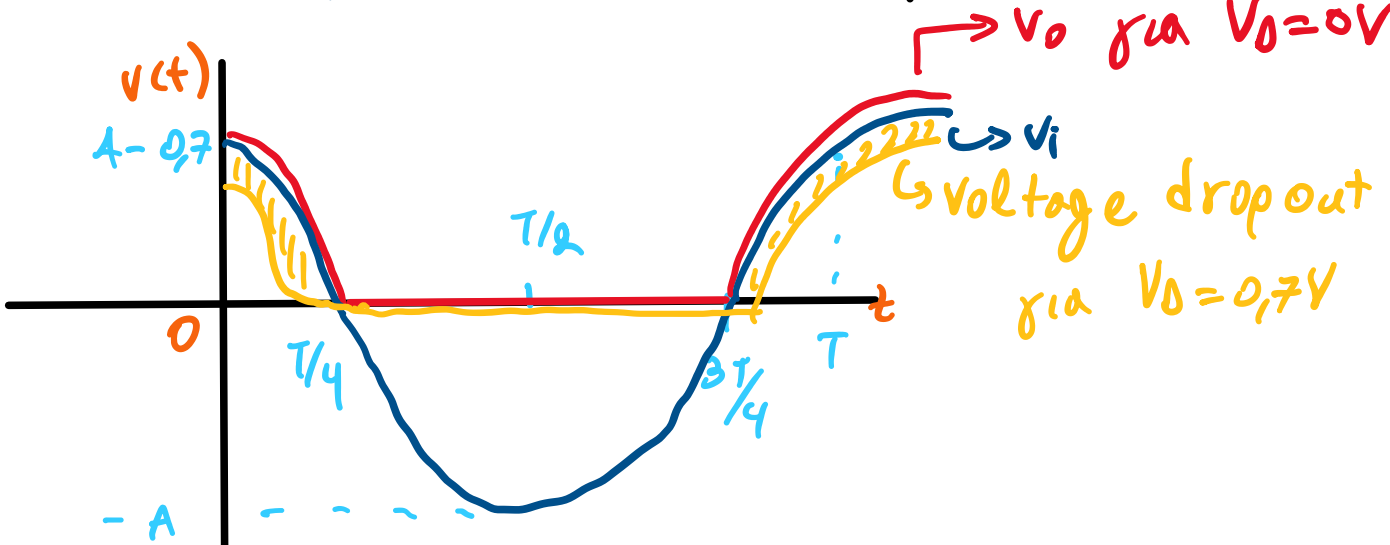


Μη δαυτερή διόδοι ($V_D = 0,7V$)

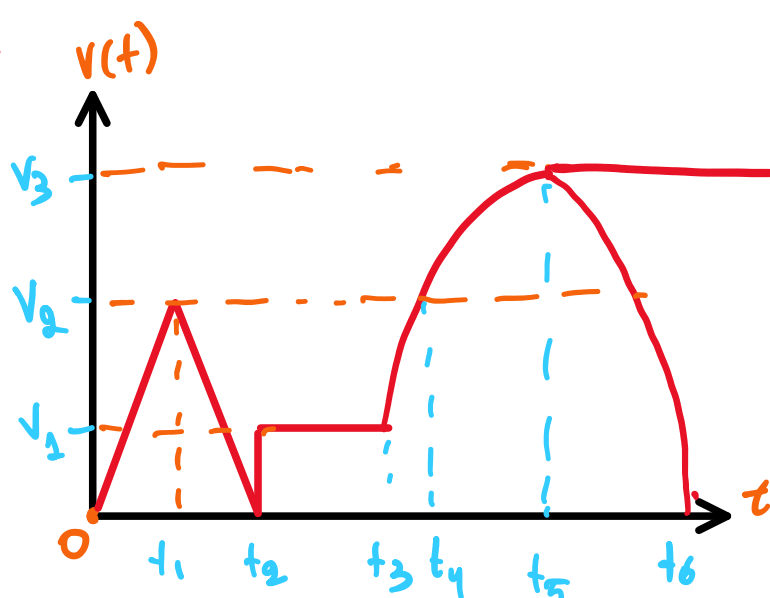
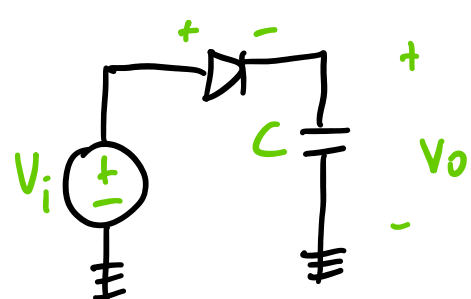
- $A_V \quad V_i < 0.7V \Rightarrow V_D = 0V \quad (0 \text{ off})$
- $A_V \quad V_i > 0.7V \Rightarrow V_D = V_i - 0.7V \quad (0 \text{ on})$



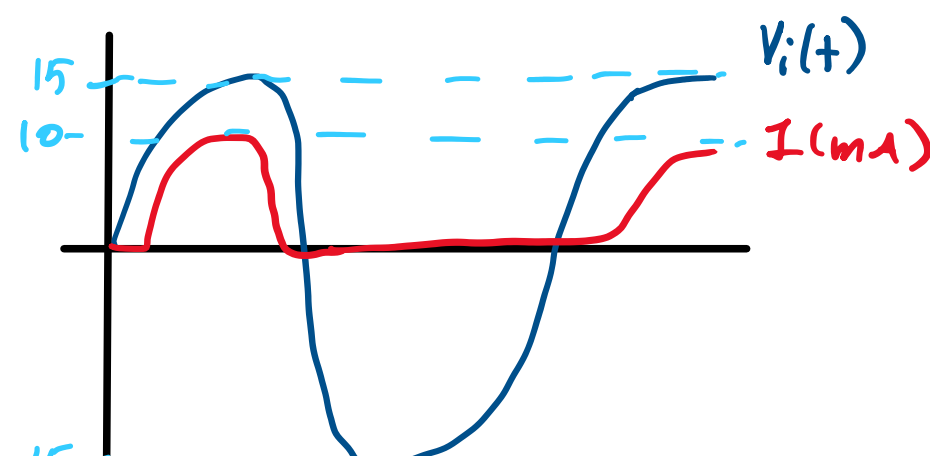
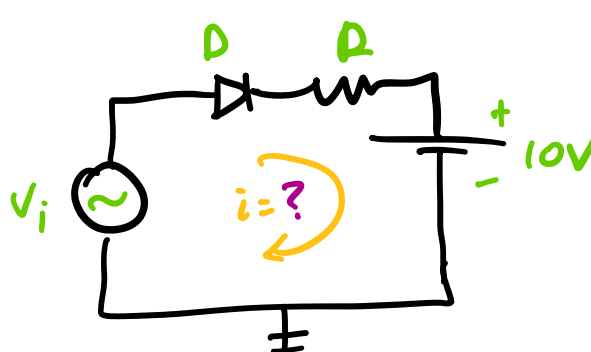
$$V_i = A \cos(\omega t)$$



Ιδανική δίοδος



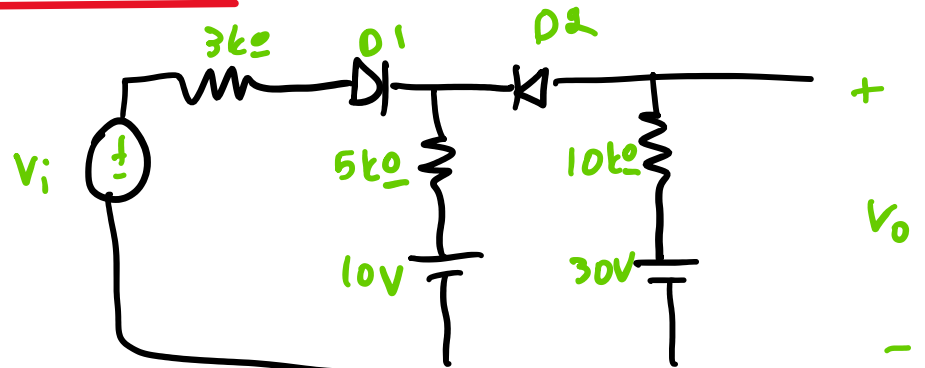
$$V_0(\partial^+) = \partial Y$$



$$i = \frac{V_i - 10}{0} = \frac{V_i - 10}{1} \text{ (mA)} \quad (R = 1k\Omega)$$

$$i_{\text{max}} = 15 - 10 = 5 \text{ mA}$$

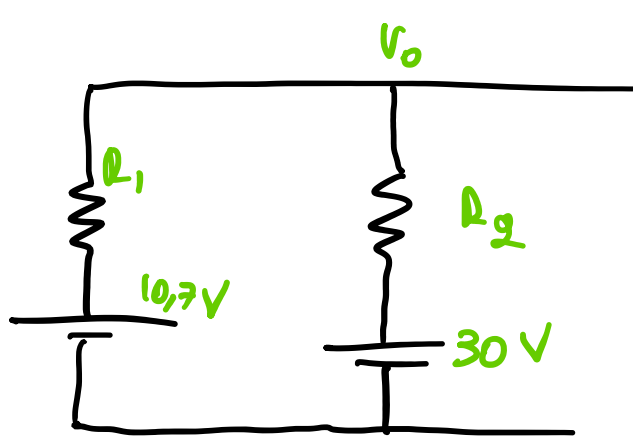
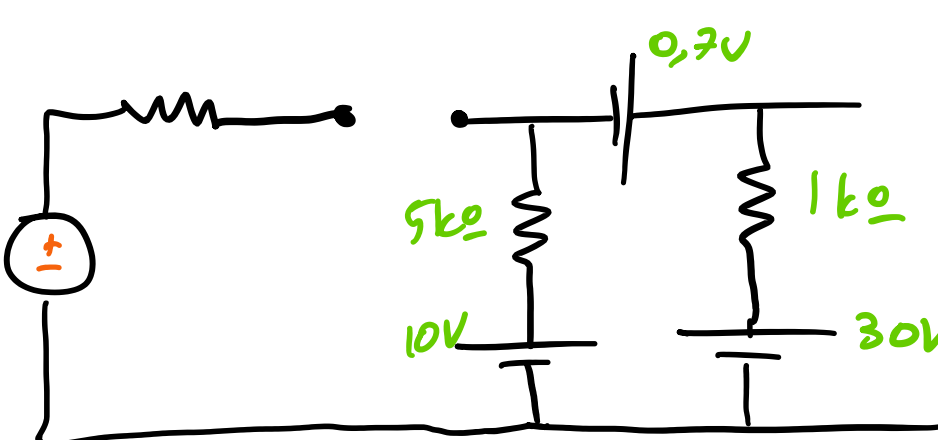
1. Ασκήση



Μη δανική φίλος

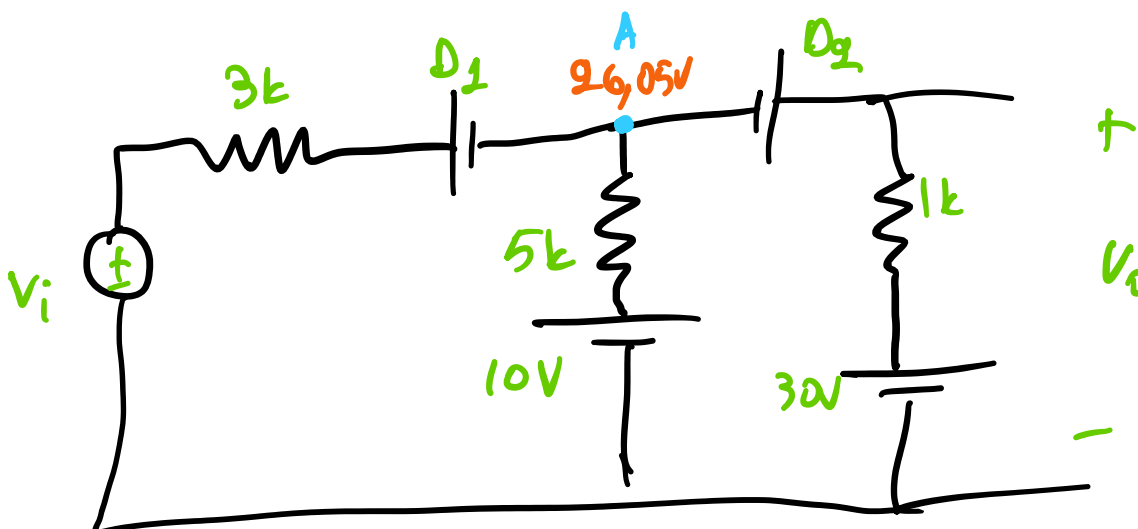


Per $v_{i2} < 0$: D_1 off, D_2 on pezzi $30 > 10 + 97$



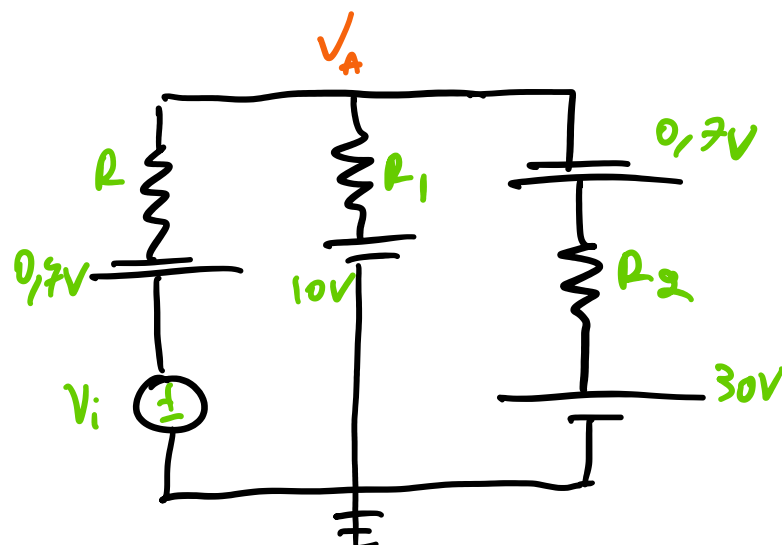
Освп. Милманн

$$V_0 = \frac{\frac{10,7}{R_1} + \frac{30}{R_2}}{\frac{1}{R_1} + \frac{1}{R_2}} = 26,78V$$



$$D_2 \text{ OFF } \mu s \chi p i \quad V_i = V_A + 0,7 =$$
$$= 26,78 - 0,7 + 0,7 = 26,78V$$

II $V_1 \approx V_A + 0,7V = 26,78V$

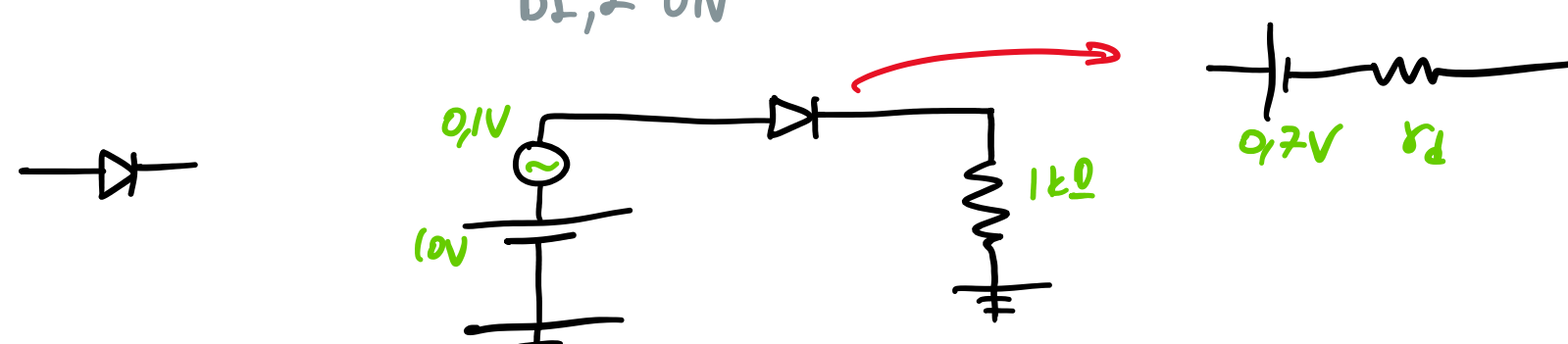
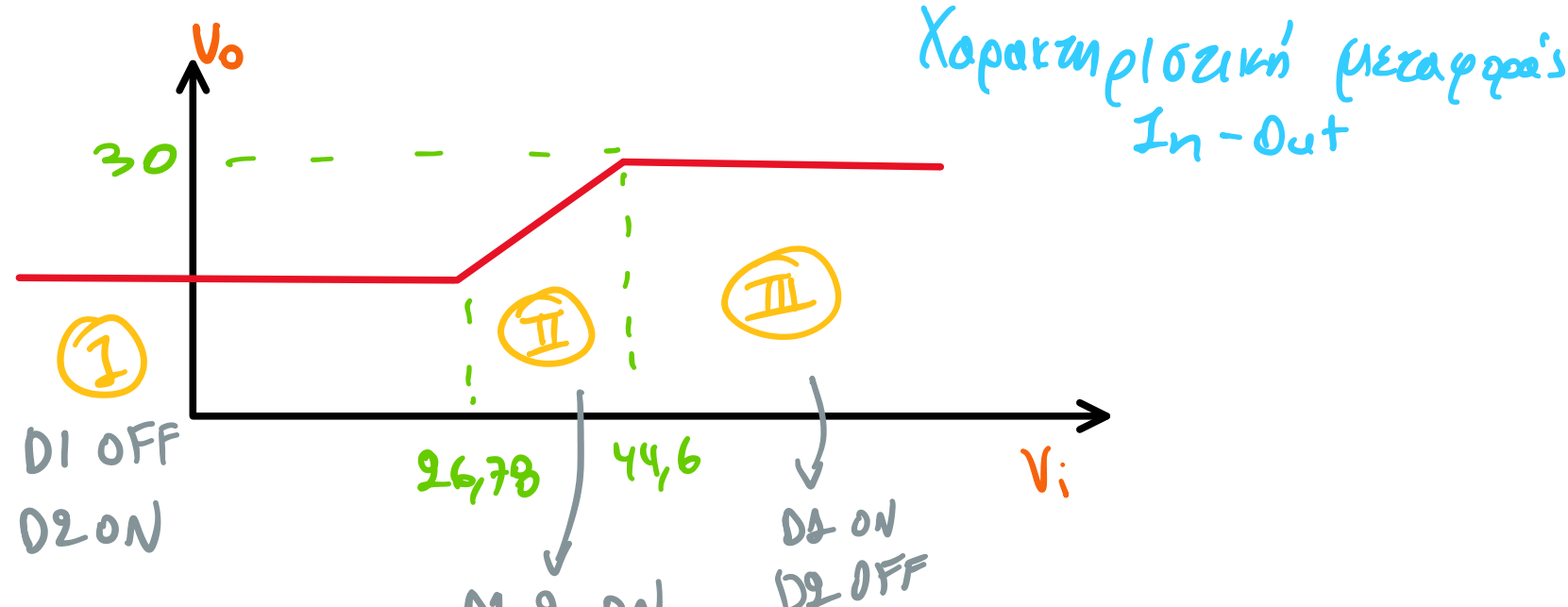


$$V_A = \frac{\frac{V_i - 0.7}{R} + \frac{10}{R_1} + \frac{30 - 0.7}{R_2}}{\frac{1}{R} + \frac{1}{R_1} + \frac{1}{R_2}} \quad (2)$$

$$V_D = V_A + 0,7$$

- D_2 OFF: $V_A \geq V_0 - 0,7$
 $V_A \geq 29,3V$

(g) $\Rightarrow V_i \approx 41,6V$



$$I_D = I_S e^{V_D / n V_T}$$

$$\frac{I_0}{I_s} = e^{V_0/nV_T} \Rightarrow \frac{V_0}{nV_T} = \ln \frac{I_0}{I_s} \Rightarrow V_0 = nV_T \ln \frac{I_0}{I_s}$$