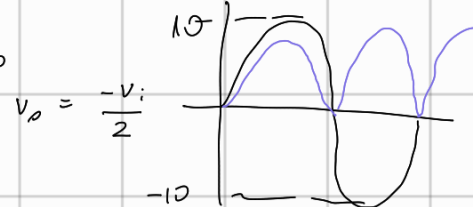
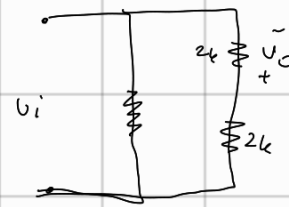


$$V_o = \frac{V_i}{2}$$



$$= \frac{1}{T} \left( \frac{-8}{2\pi} \cos \omega t + \frac{4}{2\pi} \cos \omega t + \frac{4}{2\pi} \cos \omega t \right) =$$

$$V_o = -V_i - 5V$$

$$-V_i + \frac{V_o}{2} - \frac{V_o}{2} - 5V = 0$$

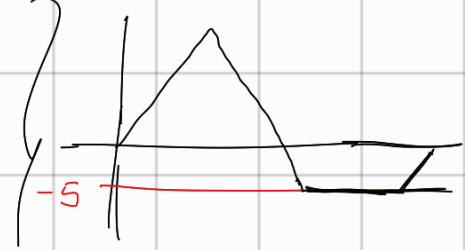
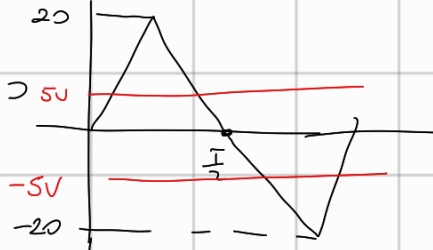
$$-V_i - 5V \geq 0$$

$$-5V \geq V_i$$

$$+1k \Omega$$

$$-V_i + \frac{V_o}{2} + V_o = 0$$

$$V_i = V_o$$



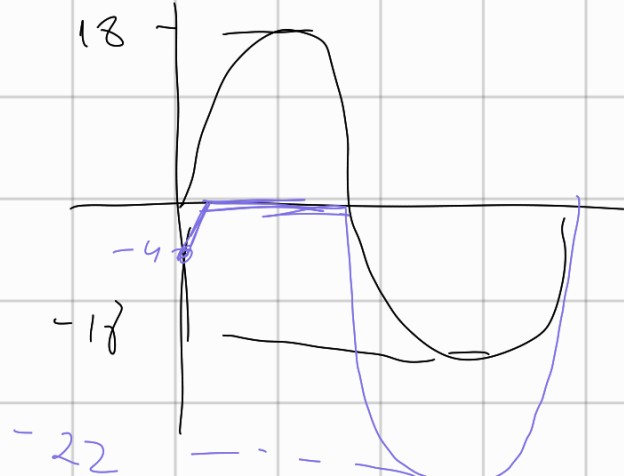
$$V_i = 4 - \frac{V_o}{2} + \frac{V_o}{2}$$

$$V_o = 4 - V_i \geq 0$$

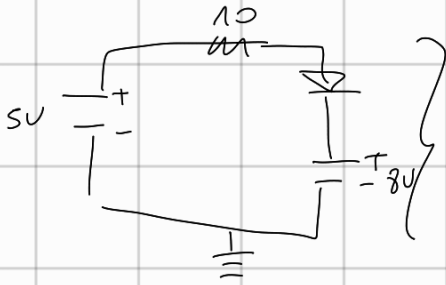
$$V_i \leq 4$$

$$V_o = -4 + V_i'$$

$$+1k \Omega \quad V_o = 0$$



Karar vereceğin aslı  
diğerleri tıss

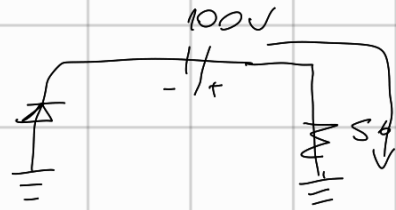


Tıkama olduğunu  
nasıl anladık

$$-5V + V_R + V_D + 8V = 0$$

$$V_D = -8V + 5V + V_R$$

-3 ≤ 0 tıkama



$$-V_R + 100 - V_D = 0$$

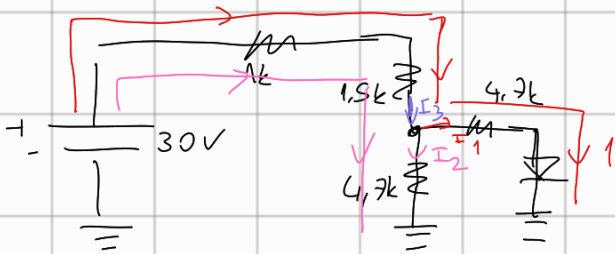
$$V_D = 100 - V_R$$

$$V_R = 100$$

$$V_D = 0$$

$$I_D = \frac{100}{5\Omega}$$

Silisyum dese 99,3 ohm



$$-30 + 1kI_2 + 1.5kI_2 + 4.7k = 0 \quad I_2 - I_1$$

$$-30 + 1kI_1 + 1.5kI_1 + 4.7k + V_D = 0 \quad V_D = 30 \geq 0$$

$$4.7(I_2 - I_1) + 4.7I_2 = 0$$

$$2I_2 = I_1$$

$$I_3 = I_1 + I_2$$

$$4.7kI_2 + 30 = 0 \quad I_2 = \frac{30}{4.7k} \quad V_{R1} = \frac{69}{9.7}$$

$$-30V + 1kI_3 + 1.5kI_3 + 4.7kI_1 + V_D = 0 \quad V_D = 30 \geq 0 \text{ iletim}$$

$$2.5kI_3 + 4.7kI_1 = 30V$$

$\underbrace{2.5kI_3}_{2I_1}$

$$-30V + 1kI_3 + 1.5kI_3 + 4.7kI_2 = 0$$

$$2.5kI_3 + 4.7kI_2 = 30V$$

$$\underbrace{9.7kI_1}_{5k + 4.7kI_1} = 30V$$

$$I_1 = \frac{30}{9.7}$$

$$4.7kI_1 = 4.7kI_2$$

$$I_1 = I_2$$

$$I_3 = 2I_1$$