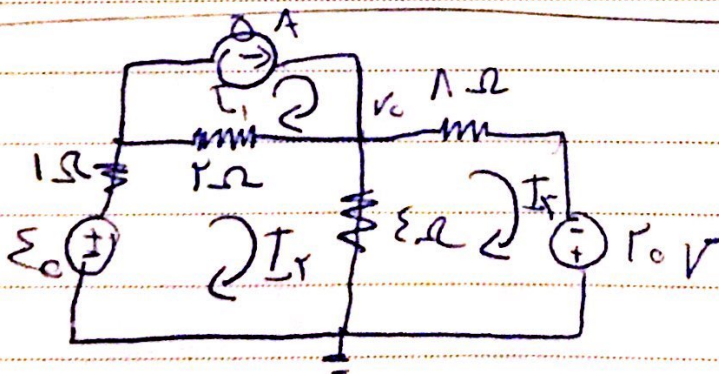


$$\rightarrow -\varepsilon_0 + 10i + 0 + \cancel{1i} + V_x + \varepsilon_0 = 0 \quad (I)$$

$$-8 + 19i + 10 + \frac{V_x}{\varepsilon} = 0 \quad (I)$$

$$-V_x = \varepsilon \left(\frac{V_x}{\varepsilon} + 1 \right) \Rightarrow V_x - \varepsilon = -\varepsilon V_x$$

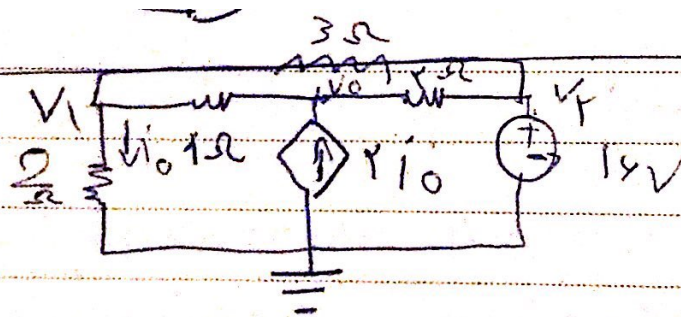
$$\Rightarrow i = 1108 \text{ A} \quad (I, II)$$



$$\textcircled{1} -\varepsilon_0 + I_1 - \varepsilon(0 - I_1) - \varepsilon(I_1 - I_2) = 0$$

$$-\varepsilon_0 + V I_1 - \varepsilon I_1 - \varepsilon I_2 = 0 \Rightarrow$$

$$\left\{ \begin{array}{l} V I_1 - \varepsilon I_1 = \varepsilon_0 \\ -\varepsilon I_1 + 10 I_2 = 0 \end{array} \right.$$



ع - از روش آره :

$$V_2 = 16 \text{ V}$$

$$\begin{cases} \frac{V_1 - V_2}{1} + \frac{V_1 - V_0}{1} + \frac{V_1}{2} = 0 \\ -2I_0 + \frac{V_0 - V_1}{1} + \frac{V_0 - V_2}{1} = 0 \end{cases}$$

$$I_0 = \frac{V_1}{1} \Rightarrow$$

$$-2V_1 + 2V_2 + 4V_1 - 4V_0 + 2V_1 = 0 \quad \left[-V_1 - V_1 + V_0 + \frac{V_0 - V_2}{1} \right]$$

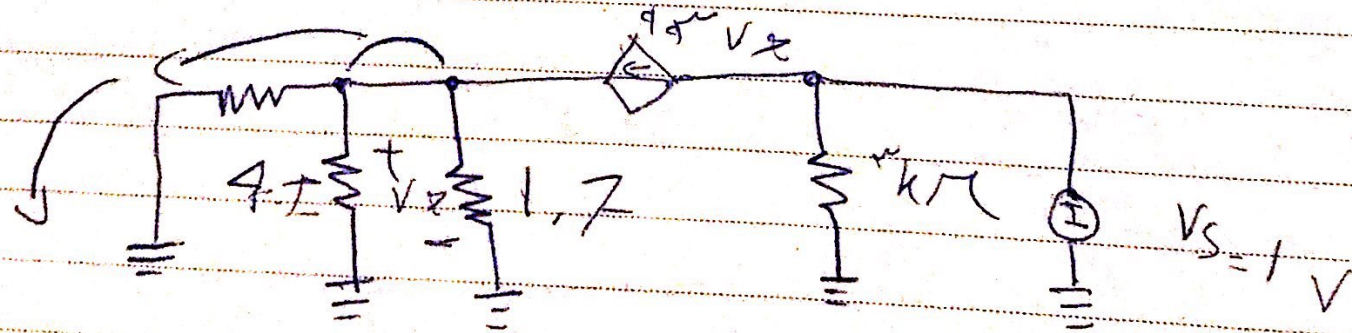
$$\begin{cases} 11V_1 - 4V_0 = 32 \\ 2V_0 - 2V_1 = 16 \end{cases}$$

Date _____

$$V_0 = 22,1 \text{ V}$$

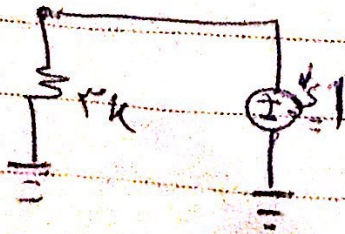
$$V_1 = 27,22$$

$$j_0 = \frac{V_1}{r} \Rightarrow 10/94 \approx 11 \text{ A}$$



روش کرون

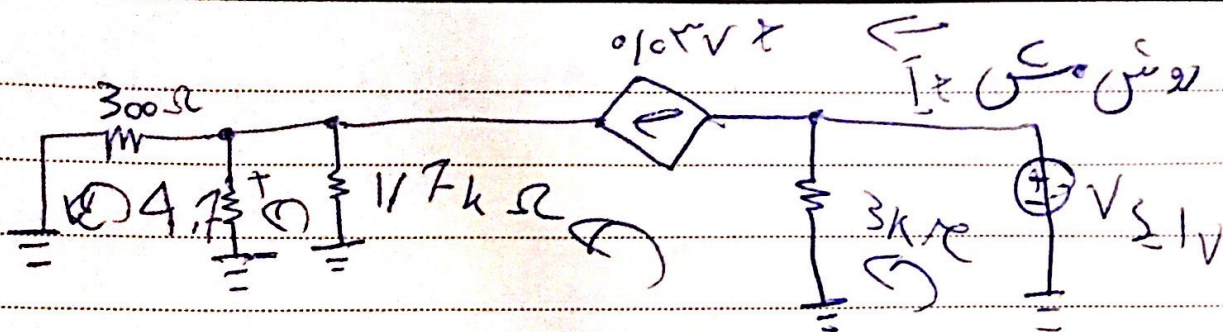
$$-0.5 V_x + \frac{V_x}{4k} + \frac{V_x}{1.7} + \frac{V_x}{1k} = 0 \Rightarrow V_x = 0$$



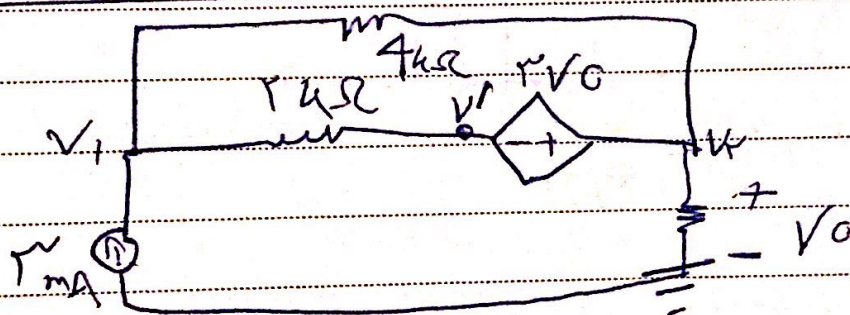
مقدار جری

$$I_x = \frac{1}{1k} = 1 \text{ mA}$$

PAPCO



$$\begin{aligned}
 KVL_1: & -1 + 3k(I_x - 0.5V_x) \\
 KVL_2: & V_x + V_x = 0 \Rightarrow V_x = 0
 \end{aligned}
 \left. \begin{array}{l} \\ \end{array} \right\} \Rightarrow I = 0.5 \text{ mA}$$



$$V_2 - V' = rV_0 \Rightarrow V' = V_2 - rV_0$$

$$\begin{aligned}
 V_1 \text{ node: } & -\frac{1}{m} + \frac{V_1 - (V_2 - rV_0)}{r} + \frac{V_1 - V_2}{r} = 0 \\
 V_2 \text{ node: } & \frac{V_2 - V_1}{r} + \frac{V_2}{1} + \frac{V_2 - (rV_0 + V_1)}{r} = 0
 \end{aligned}$$

$$\begin{cases} rV_2 + rV_1 = 1 \\ rV_1 - V_2 = 0 \end{cases}$$

$$\Rightarrow V_2 = rV_1$$

$$V_1 = 1 \quad V_2 = r$$