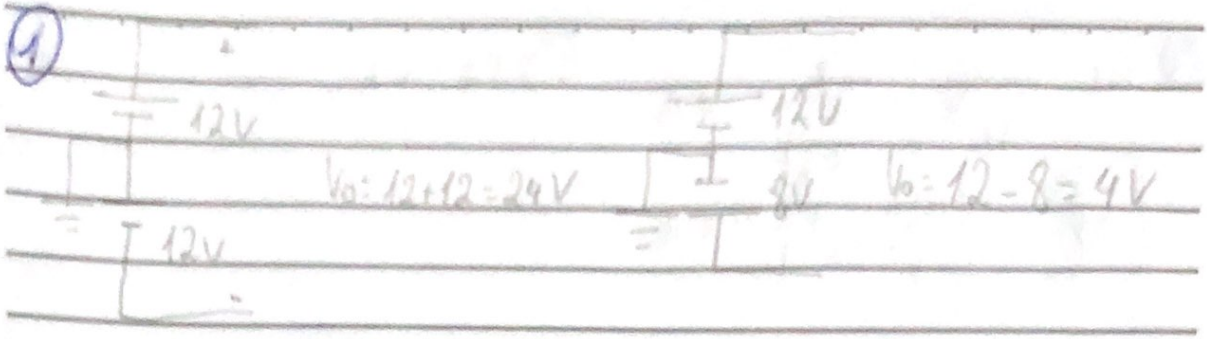
Seg Ter Qua Qui Sex Sáb Dom

1 1

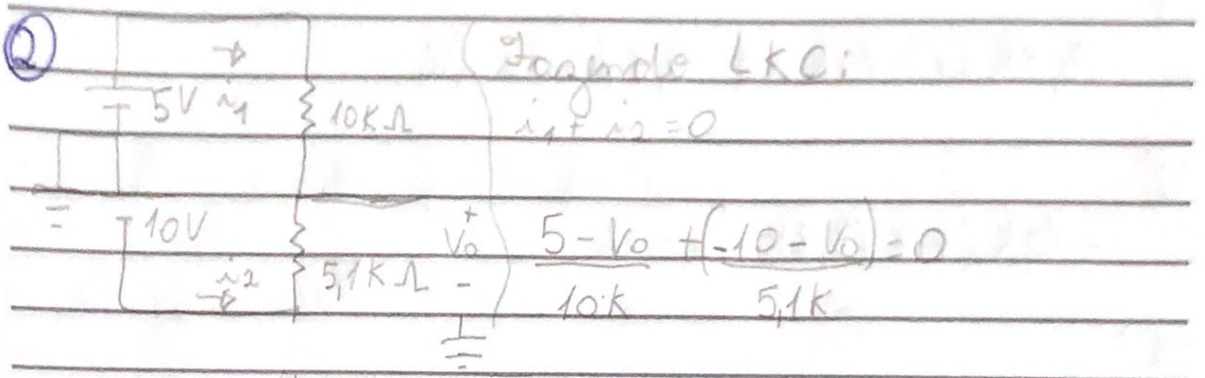
(1)



$V_o = 12 + 12 = 24V$

$V_o = 12 - 8 = 4V$

(2)



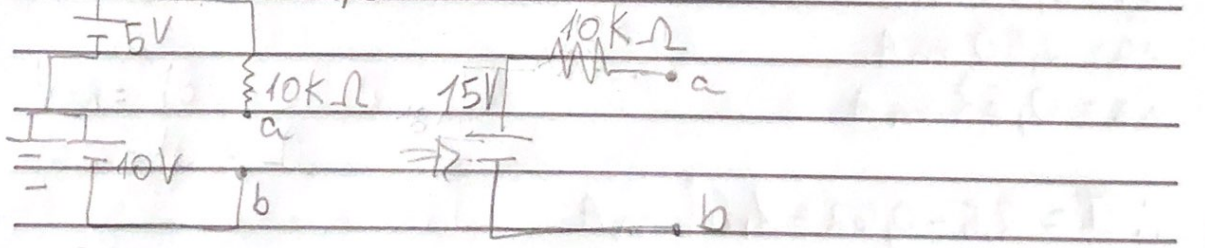
Fazendo LKC: $i_1 + i_2 = 0$

$$\frac{5 - V_o}{10k} + \frac{(-10 - V_o)}{5,1k} = 0$$

$$25,5k - 5,1k\,V_o - 100k - 10k\,V_o = 0$$

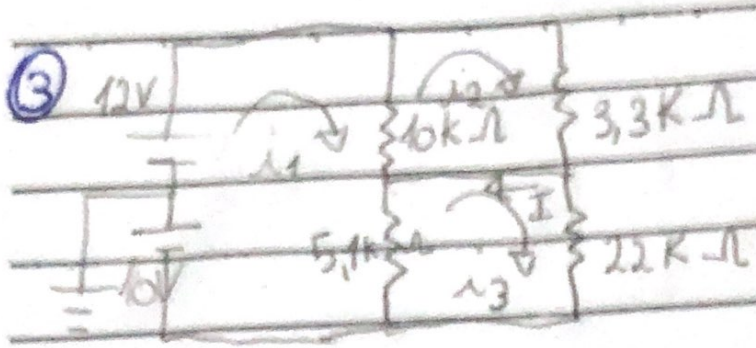
$$-15,1\,V_o = 74,5$$

$$V_o = -4,93\,V$$



$V_{th} = 15\,V$; $R_{th} = 10K\Omega$

③



$I = i_2 - i_3$

"1"

$$15,1K\, i_1 - 10K\, i_2 - 5,1K\, i_3 = 22$$

"2"

$$-10K\, i_1 + 13,3K\, i_2 = 0$$

"3"

$$-5,1K\, i_1 + 27,1K\, i_3 = 0$$

$i_1 = 3,32\ mA$

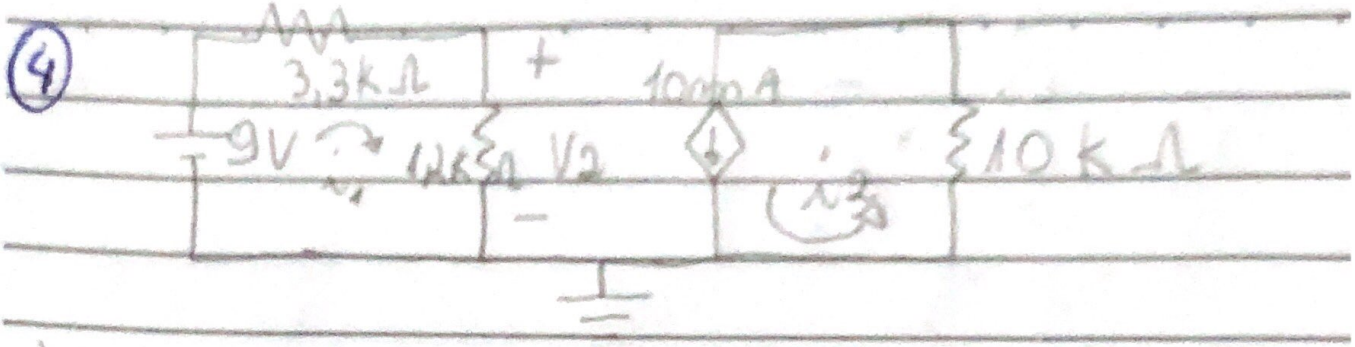
$i_2 = 2,50\ mA$

$i_3 = 0,62\ mA$

$\therefore I = 2,5 - 0,62 = 1,88\ mA$

Seg | Ter | Qua | Qui | Sex | Sáb | Dom

④



$V = R \cdot i_1$

$i_1 = \frac{9}{4,5k} = 2mA$

$V_2 = R \cdot i_1 = 1,2k \cdot 2m = 2,4V$

$i_2 = \frac{V_2}{R_3} = \frac{2,4}{10k} = 24mA$

$V_{R3} = 24m \cdot 10k = 240V$