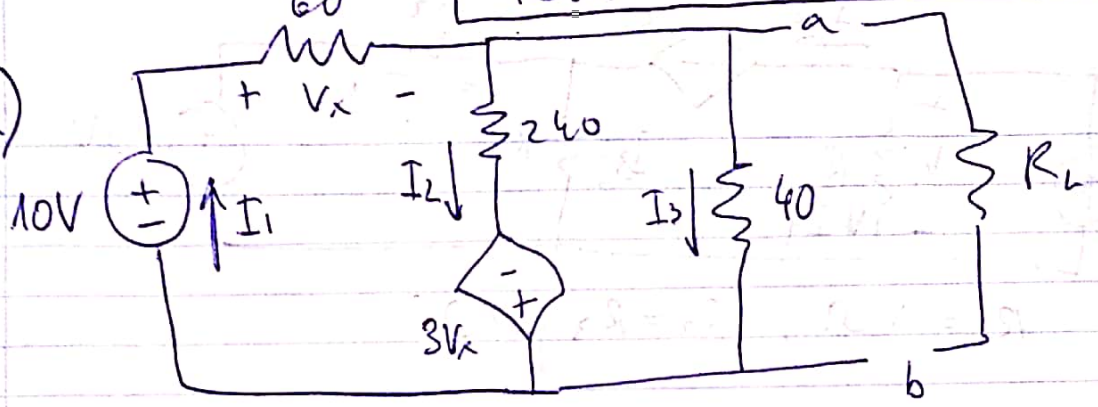
Pablo Cuesta Sierra. 120.

(2) a)



Calculamos $V_{th} = V_{ab}$:

$I_1 = I_2 + I_3$. $\quad V_x = 60 I_1 \quad V_{th} = V_{ab} = 40 I_3$

① $10V - 60I_1 - 40I_3 = 0$

$+40I_3 + 3V_x - I_2 \cdot 240 = 0 \Rightarrow 40I_3 + 180I_1 - 240(I_1 - I_3) = 0$

$\Rightarrow 280 I_3 = 60 I_1$

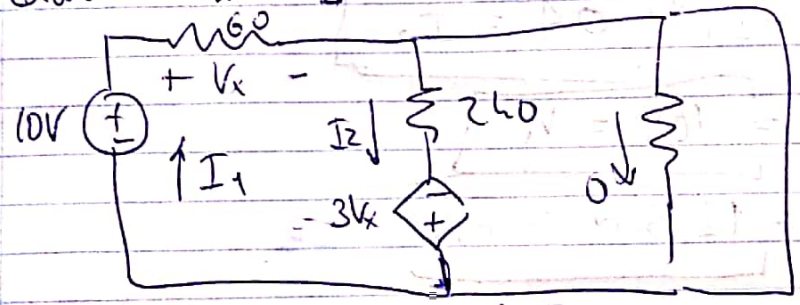
$I_1 = \frac{280}{60} I_3 = \frac{14}{3} I_3$

① $\Rightarrow 10V = 40I_3 + 60 \cdot \frac{14}{3} I_3 = 320 I_3$

$\Rightarrow I_3 = \frac{10V}{320\Omega} = \frac{1}{32} A$. $\quad V_{th} = \frac{40}{32} V$

$V_{th} = 1{,}25 V$

Calculamos ahora I_N.



$I_1 = I_2 + I_N$, $\quad V_x = 60 I_1$

$-240 I_2 + 3 \cdot 60 I_1 = 0 \Rightarrow I_2 = \frac{3 \cdot 60 I_1}{240} = \frac{1}{8} A$

$10V - 60 I_1 = 0 \Rightarrow I_1 = 1/6 A$

$I_N = I_1 - I_2 = \frac{1}{24} A = I_N$, $\quad R_{eq} = \frac{V_{th}}{I_N} = 0{,}052 \ \Omega$

(b) El valor de R_L que lleva max. la potencia transferida por el circuito es aquella igual a R_{eq}. Por tanto: $R_L = R_{eq}$.