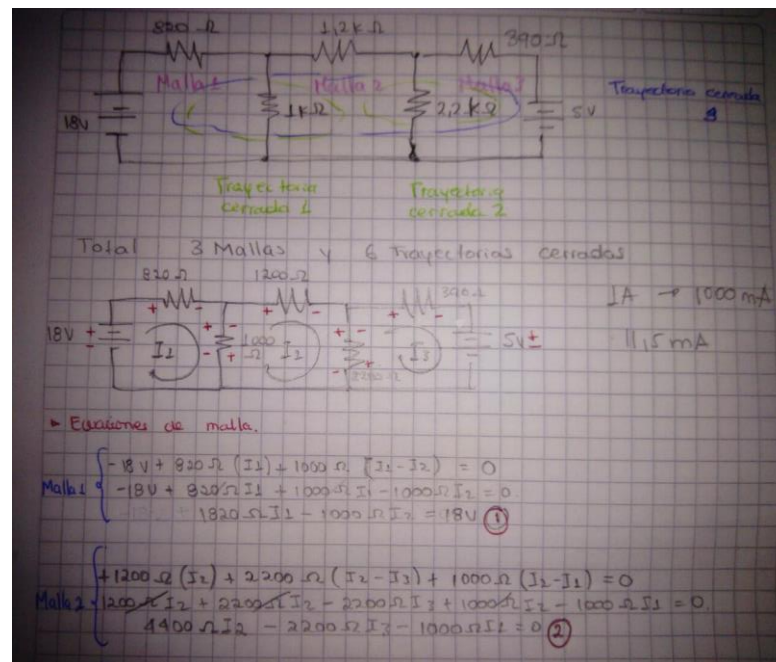


## 10.- ANEXOS

## ANÁLISIS DE MALLAS



Malla 1: 
$$\begin{aligned} -18V + 820\Omega(I_1) + 1000\Omega(I_1 - I_2) &= 0 \\ -18V + 820\Omega I_1 + 1000\Omega I_1 - 1000\Omega I_2 &= 0 \\ 1820\Omega I_1 - 1000\Omega I_2 &= 18V \quad (1) \end{aligned}$$

Malla 2: 
$$\begin{aligned} +1200\Omega(I_2) + 2200\Omega(I_2 - I_3) + 1000\Omega(I_2 - I_1) &= 0 \\ 1200\Omega I_2 + 2200\Omega I_2 - 2200\Omega I_3 + 1000\Omega I_2 - 1000\Omega I_1 &= 0 \\ 4400\Omega I_2 - 2200\Omega I_3 - 1000\Omega I_1 &= 0 \quad (2) \end{aligned}$$

Malla 3: 
$$\begin{aligned} +390\Omega(I_3) + 5V + 2200\Omega(I_3 - I_2) &= 0 \\ 390\Omega I_3 + 5V + 2200\Omega I_3 - 2200\Omega I_2 &= 0 \\ 2590\Omega I_3 - 2200\Omega I_2 &= -5V \quad (3) \end{aligned}$$

Sistema 3 ecuaciones con 3 incógnitas

$$\begin{aligned} 1820\Omega I_1 - 1000\Omega I_2 + 0 I_3 &= 18V \\ -1000\Omega I_1 + 4400\Omega I_2 - 2200\Omega I_3 &= 0 \\ 0\Omega I_1 - 2200\Omega I_2 + 2590\Omega I_3 &= -5V \end{aligned}$$

Resolviendo mediante una calculadora

$$\begin{aligned} I_1 &= \frac{186}{15365} = 0,01145 \text{ A} \\ I_2 &= \frac{5}{1756} = 0,00285 \text{ A} \\ I_3 &= \frac{3}{1146} = 0,00049 \text{ A} \end{aligned}$$

$$\left( \begin{array}{ccc|c} 1 & 0 & 0 & \frac{176}{15365} \\ 0 & 1 & 0 & \frac{5}{1756} \\ 0 & 0 & 1 & \frac{3}{6146} \end{array} \right)$$

$$\begin{cases} I_1 = \frac{176}{15365} \\ I_2 = \frac{5}{1756} \\ I_3 = \frac{3}{6146} \end{cases}$$