$1820 * I1 - 1000 * I2 = 18$ $\boxed{1}$

$-1000 * I1 + 4400 * I2 - 2200 * I3 = 0$ $\boxed{2}$

$-2200 * I2 + 2590 * I3 = -5$ $\boxed{3}$

El sistema de ecuaciones:

$$\begin{cases} 1820\, x_1 + (-1000)\, x_2 + 0\, x_3 = 18 \\ -1000\, x_1 + 4400\, x_2 + (-2200)\, x_3 = 0 \\ 0\, x_1 + (-2200)\, x_2 + 2590\, x_3 = -5 \end{cases}$$

La solución por el método de Gauss-Jordan

Transformar la matriz aumentada del sistema em uma matriz en forma escalonada:

$$\left(\begin{array}{ccc|c} 1820 & -1000 & 0 & 18 \\ -1000 & 4400 & -2200 & 0 \\ 0 & -2200 & 2590 & -5 \end{array}\right) \times\left(\frac{1}{1820}\right) \underset{F_1/(1820)\to F_1}{\sim} \left(\begin{array}{ccc|c} 1 & \frac{-50}{91} & 0 & \frac{9}{910} \\ -1000 & 4400 & -2200 & 0 \\ 0 & -2200 & 2590 & -5 \end{array}\right) \times(1000) \underset{F_2-(-1000)\cdot F_1\to F_2}{\sim}$$

$$\left(\begin{array}{ccc|c} 1 & \frac{-50}{91} & 0 & \frac{9}{910} \\ 0 & \frac{350400}{91} & -2200 & \frac{900}{91} \\ 0 & -2200 & 2590 & -5 \end{array}\right) \times\left(\frac{91}{350400}\right) \underset{F_2/\left(\frac{350400}{91}\right)\to F_2}{\sim} \left(\begin{array}{ccc|c} 1 & \frac{-50}{91} & 0 & \frac{9}{910} \\ 0 & 1 & \frac{-1001}{1752} & \frac{3}{1168} \\ 0 & -2200 & 2590 & -5 \end{array}\right) \times(2200) \underset{F_3-(-2200)\cdot F_2\to F_3}{\sim} \left(\begin{array}{ccc|c} 1 & \frac{-50}{91} & 0 & \frac{9}{910} \\ 0 & 1 & \frac{-1001}{1752} & \frac{3}{1168} \\ 0 & 0 & \frac{291935}{219} & \frac{95}{146} \end{array}\right) \times\left(\frac{219}{291935}\right)$$

$$\underset{F_3/\left(\frac{291935}{219}\right)\to F_3}{\sim} \left(\begin{array}{ccc|c} 1 & \frac{-50}{91} & 0 & \frac{9}{910} \\ 0 & 1 & \frac{-1001}{1752} & \frac{3}{1168} \\ 0 & 0 & 1 & \frac{3}{6146} \end{array}\right) \times\left(\frac{1001}{1752}\right) \underset{F_2-\left(\frac{-1001}{1752}\right)\cdot F_3\to F_2}{\sim} \left(\begin{array}{ccc|c} 1 & \frac{-50}{91} & 0 & \frac{9}{910} \\ 0 & 1 & 0 & \frac{5}{1756} \\ 0 & 0 & 1 & \frac{3}{6146} \end{array}\right) \times\left(\frac{50}{91}\right) \underset{F_1-\left(\frac{-50}{91}\right)\cdot F_2\to F_1}{\sim} \left(\begin{array}{ccc|c} 1 & 0 & 0 & \frac{176}{15365} \\ 0 & 1 & 0 & \frac{5}{1756} \\ 0 & 0 & 1 & \frac{3}{6146} \end{array}\right)$$

$$\begin{cases} x_1 = \frac{176}{15365} \\ x_2 = \frac{5}{1756} \\ x_3 = \frac{3}{6146} \end{cases} \quad (1)$$

$$I_1 = \frac{176}{15365} = 11.45\ mA$$

$$I_2 = \frac{5}{1756} = 2.84\ mA$$

$$I_3 = \frac{3}{6146} = 0.48\ mA$$