



(M1)

$$+18 - 820 I_1 - 1k(I_1 - I_2) = 0$$

$$18 = 820 I_1 + 1k I_1 - 1k I_2$$

$$18 = 1820 I_1 - 1000 I_2 \quad (1)$$

(M2)

$$1k(I_2 - I_1) + 1,2k(I_2) + 2,2k(I_2 + I_3) = 0$$

$$1k I_2 - 1k I_1 + 1,2k I_2 + 2,2k I_2 + 2,2k I_3 = 0$$

$$-1000 I_1 + 4400 I_2 + 2200 I_3 = 0 \quad (2)$$

(M3)

$$5 - 390 I_3 - 2,2k(I_3 + I_2) = 0$$

$$5 = 390 I_3 + 2200 I_3 + 2200 I_2$$

$$5 = 2200 I_2 + 2590 I_3 \quad (3)$$

① y ③ en ②

$$-1000 \left(\frac{18 + 1000 I_2}{1820} \right) + 4400 I_2 + 2200 \left(\frac{5 - 2200 I_2}{2590} \right) = 0$$

$$-9,89 - 549,45 I_2 + 4400 I_2 + 4,25 - 1868,73 I_2 = 0$$

$$1981,82 I_2 = 5,64$$

$$I_2 = 2,85 \text{ [mA]}$$

I_2 en ①

$$18 = 1820 I_1 - 1000(2,85 \cdot 10^{-3})$$

$$1820 I_1 = 20,85$$

$$I_1 = 11,46 \text{ [mA]}$$

I_2 en ③

$$5 = 2200(2,85 \cdot 10^{-3}) + 2590 I_3$$

$$2590 I_3 = 5 - 6,27$$

$$I_3 = -490,35 \text{ [μA]}$$