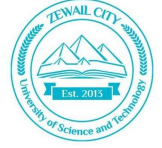


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Date: November 23, 2023



Electric Circuits (ENGR210)

Practical Lab 2 Report

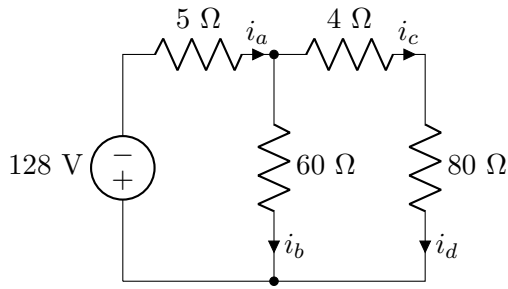


Figure 1: Circuit Diagram

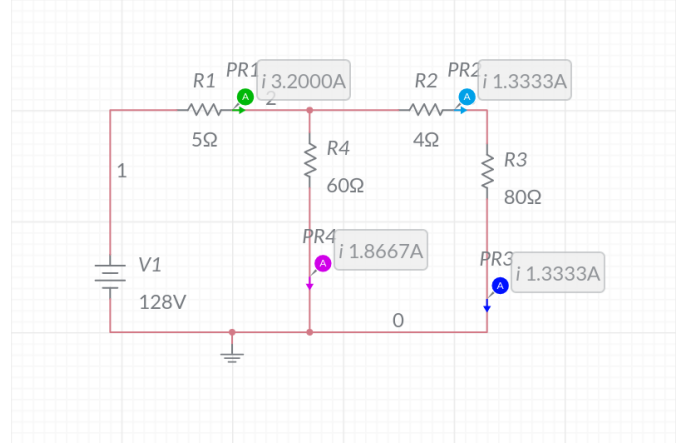


Figure 2: Circuit Simulation

1.

$$5I_1 + 60(I_1 - I_2) = 128 \quad (1)$$

$$60(I_2 - I_1) + 4I_2 + 80I_2 = 0. \quad (2)$$

$$65I_1 - 60I_2 = 128 \quad (3)$$

$$-60I_1 + 144I_2 = 0. \quad (4)$$

$$I_1 = 3.20 \quad (5)$$

$$I_2 = 1.33. \quad (6)$$

$$i_a = I_1 = 3.20 \quad (7)$$

$$i_b = I_1 - I_2 = 1.87 \quad (8)$$

$$i_c = I_2 = 1.33 \quad (9)$$

$$i_d = I_2 = 1.33. \quad (10)$$

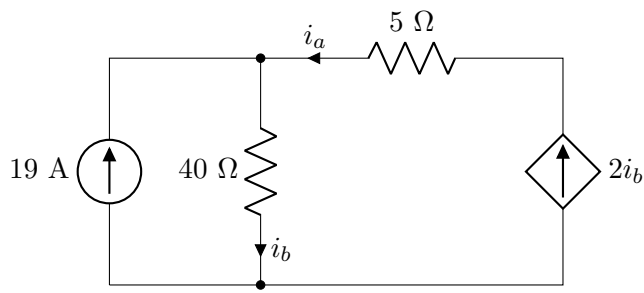


Figure 3: Circuit Diagram

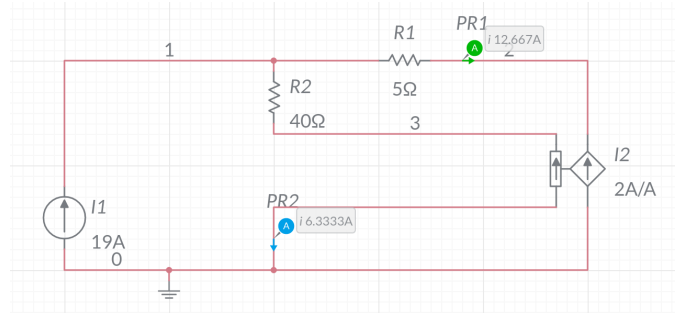


Figure 4: Circuit Simulation

2.

$$19 + i_a + i_b = 0 \quad (11)$$

$$i_a = 2i_b. \quad (12)$$

$$i_b = \frac{19}{3} \quad (13)$$

$$\approx 6.33 \quad (14)$$

$$i_a = 2i_b \quad (15)$$

$$\approx 12.67. \quad (16)$$