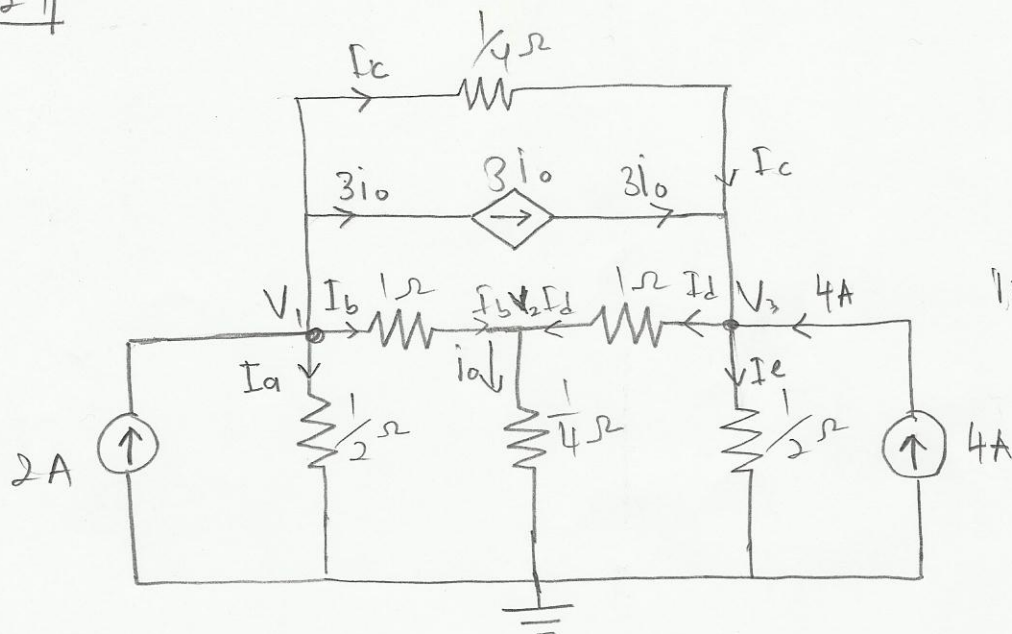


3.27



KCL at node 1

$$I_c + 3i_o + I_b + I_a = 2$$

$$\frac{V_1 - V_3}{1/4} + 3(4V_2) + \frac{V_1 - V_2}{1} + 2V_1 = 2$$

$$4V_1 - 4V_3 + 12V_2 + V_1 - V_2 + 2V_1 = 2$$

$$7V_1 + 11V_2 - 4V_3 = 2 \quad \text{--- (1)}$$

KCL at node 2

$$I_c + 3i_o + 4 = I_d + I_e$$

$$4V_1 - 4V_3 + 12V_2 + 4 = V_3 - V_2 + 2V_3$$

$$= -V_2 + 3V_3$$

$$4V_1 + 13V_2 - 7V_3 = -4 \quad \text{--- (2)}$$

KCL at node 3

$$I_b + I_d = i_o$$

$$V_1 - V_2 + V_3 - V_2 = i_o$$

$$= 4V_2$$

$$V_1 - 6V_2 + V_3 = 0 \quad \text{--- (3)}$$

$$V_1 = 0.625V$$

$$V_2 = 0.575V$$

$$V_3 = 1.625V \quad \#$$