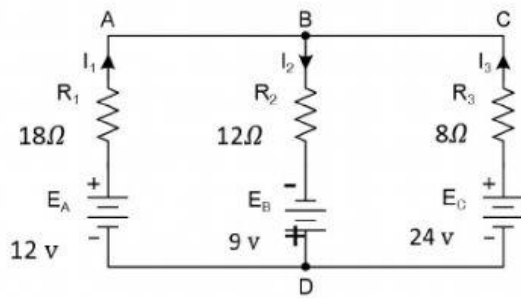


Kirchhoff 2

19 January 2564 10:10

Name

No



จากวงจรด้านบนหาค่ากระแส I_1, I_2, I_3 .

Solⁿ วงจร ABDA : KVL.

สมมติว่า

วงจร BCDB

สมมติว่า

$$I_1 = A$$

$$I_3 = A$$

$$I_2 = I_1 + I_3 = A \quad \text{Ans}$$

$$I_1 R_1 + I_1 R_2 + I_3 R_2 = E_A + E_B$$

$$I_3 R_3 + I_1 R_2 + I_3 R_2 = E_B + E_C$$

$$12 I_1 + 20 I_3 = 33$$

$$I_1 (18 + 12) + 12 I_3 = 12 + 9$$

$$I_1 R_1 + I_2 R_2 - E_B - E_A = 0$$

$$12 I_1 + I_3 (12 + 8) = 9 + 24$$

$$30 I_1 + 12 I_3 = 21$$

$$I_1 R_1 + (I_1 + I_3) R_2 = E_A + E_B$$

$$I_1 R_2 + I_3 (R_2 + R_3) = E_B + E_C$$

$$I_3 R_3 + I_2 R_2 - E_B - E_C = 0$$

$$I_1 (R_1 + R_2) + I_3 R_2 = E_A + E_B$$

$$I_3 R_3 + (I_1 + I_3) R_2 = E_B + E_C$$