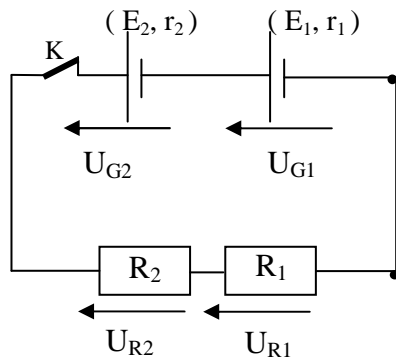


حل التمرين 01

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حسب قانون إضافية التوترات :

$$U_{G1} + U_{G2} - U_{R1} - U_{R2} = 0$$

$$U_{G1} = E_1 - r_1 I$$

$$U_{G2} = E_2 - r_2 I$$

$$U_{R1} = R_1 I$$

$$U_{R2} = R_2 I$$

$$\Rightarrow (E_1 - r_1 I) + (E_2 - r_2 I) - R_1 I - R_2 I = 0$$

$$\Rightarrow E_1 + E_2 - I(r_1 + r_2 + R_1 + R_2) = 0$$

$$\Rightarrow I = \frac{E_1 + E_2}{r_1 + r_2 + R_1 + R_2}$$

تطبيق عددي :

$$I = \frac{9 + 4,5}{2 + 1 + 82 + 118} = 6,65 \cdot 10^{-2} A = 66,5 mA$$

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