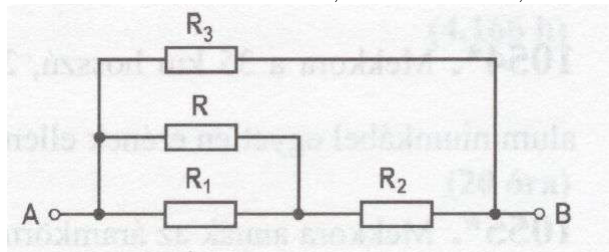


Fizika: 1064. feladat

Mekkora az R ellenállás, ha $R_1=10\ \Omega$, $R_2=25\ \Omega$, $R_3=30\ \Omega$, $R_e=15\ \Omega$?



$R = ?$

$$R_1 = 10\ \Omega$$

$$R_2 = 25\ \Omega$$

$$R_3 = 30\ \Omega$$

$$R_e = 15\ \Omega$$

$$R \times R_1 = R_4$$

$$R_4 + R_2 = R_5$$

$$R_3 \times R_5 = R_e$$

$$R_e = R_3 \times R_5:$$

$$\frac{R_3 \cdot R_5}{R_3 + R_5} = 15$$

$$\frac{30 \cdot R_5}{30 + R_5} = 15$$

$$30 \cdot R_5 = 15 \cdot (30 + R_5)$$

$$R_5 = 30\ \Omega$$

$$R_5 = R_2 + R_4:$$

$$R_5 = R_4 + R_2$$

$$30\ \Omega = R_4 + 25\ \Omega$$

$$R_4 = 5\ \Omega$$

$$R_4 = R \times R_1$$

$$5\Omega = \frac{R \cdot R_1}{R + R_1}$$

$$5\Omega = \frac{R \cdot 10}{R + 10}$$

$$5 \cdot R + 50 = 10 \cdot R$$

$$50 = 5 \cdot R$$

$$10\Omega = R$$

Az R ellenállás értéke 10Ω .

Kata