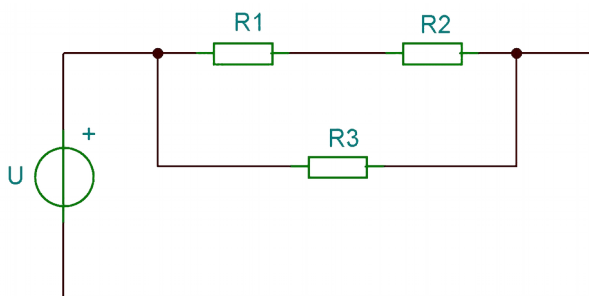


## A csoport

### 1. feladat

$$R_1 = R_2 = R_3 = 5 \, \Omega$$

$$R_e = ? \, [\Omega]$$



$$R_e = \frac{(R_1 + R_2) * R_3}{(R_1 + R_2) + R_3} = \frac{(5 + 5) * 5}{(5 + 5) + 5} = \frac{50}{15} = 3.333 \, \Omega$$

### 2. feladat

$$R_1 = 10 \, \Omega$$

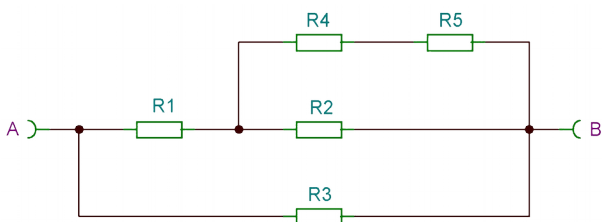
$$R_2 = 15 \, \Omega$$

$$R_3 = 3 \, \Omega$$

$$R_4 = 6 \, \Omega$$

$$R_5 = 4 \, \Omega$$

$$R_e = ? \, [\Omega]$$



$$R_e = R_3 \otimes (R_1 + (R_4 + R_5) \otimes R_2)$$

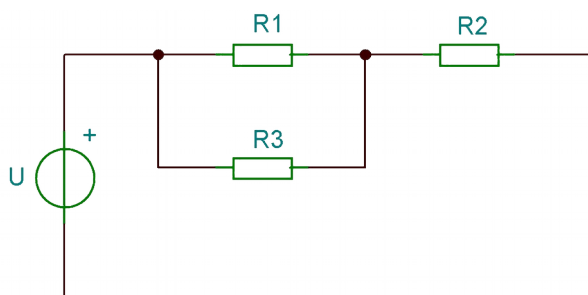
$$R_e = \frac{R_3 * (R_1 + \frac{R_2 * (R_4 + R_5)}{R_2 + (R_4 + R_5)})}{R_3 + (R_1 + \frac{R_2 * (R_4 + R_5)}{R_2 + (R_4 + R_5)})} = \frac{3 * (10 + \frac{15 * (6 + 4)}{15 + (6 + 4)})}{3 + (10 + \frac{15 * (6 + 4)}{15 + (6 + 4)})} = \frac{3 * (10 + \frac{150}{25})}{3 + (10 + \frac{150}{25})} = \frac{3 * 16}{3 + 16} = 2.526 \, \Omega$$

## B csoport

### 1. feladat

$$R_1 = R_2 = R_3 = 5 \, \Omega$$

$$R_e = ? \, [\Omega]$$



$$R_e = \frac{R_1 * R_3}{R_1 + R_3} + R_2 = \frac{5 * 5}{5 + 5} + 5 = 2,5 + 5 = 7,5 \Omega$$

### 2. feladat

$$R_1 = 2 \, \Omega$$

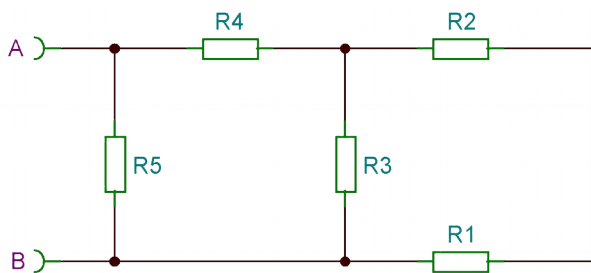
$$R_2 = 8 \, \Omega$$

$$R_3 = 15 \, \Omega$$

$$R_4 = 10 \, \Omega$$

$$R_5 = 3 \, \Omega$$

$$R_e = ? \, [\Omega]$$



$$R_e = R_5 \otimes (R_4 + R_3 \otimes (R_1 + R_2))$$

$$R_e = \frac{R_5 * (R_4 + \frac{R_3 * (R_1 + R_2)}{R_3 + (R_1 + R_2)})}{R_5 + (R_4 + \frac{R_3 * (R_1 + R_2)}{R_3 + (R_1 + R_2)})} = \frac{3 * (10 + \frac{15 * (2 + 8)}{15 + (2 + 8)})}{3 + (10 + \frac{15 * (2 + 8)}{15 + (2 + 8)})} = \frac{3 * (10 + \frac{150}{25})}{3 + (10 + \frac{150}{25})} = \frac{3 * 16}{3 + 16} = 2,526 \Omega$$