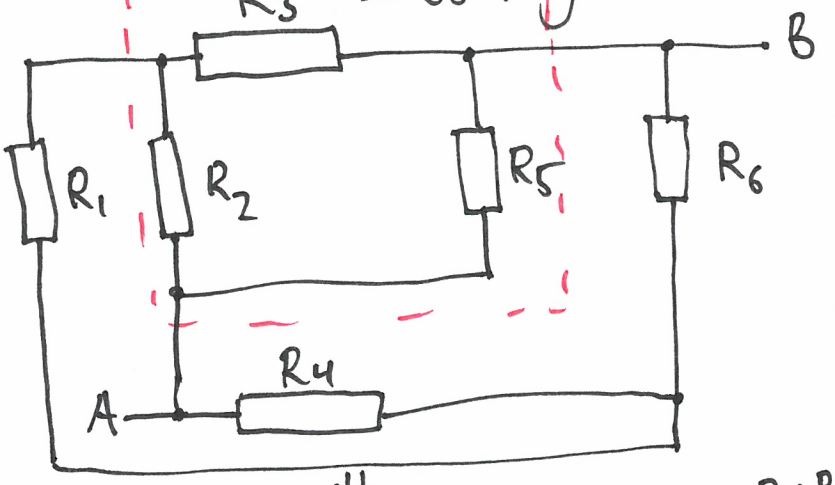
A 4.2

Lösning med DY-transformation



$R_1 = 1.0\,\Omega$, $R_2 = 2.0\,\Omega$

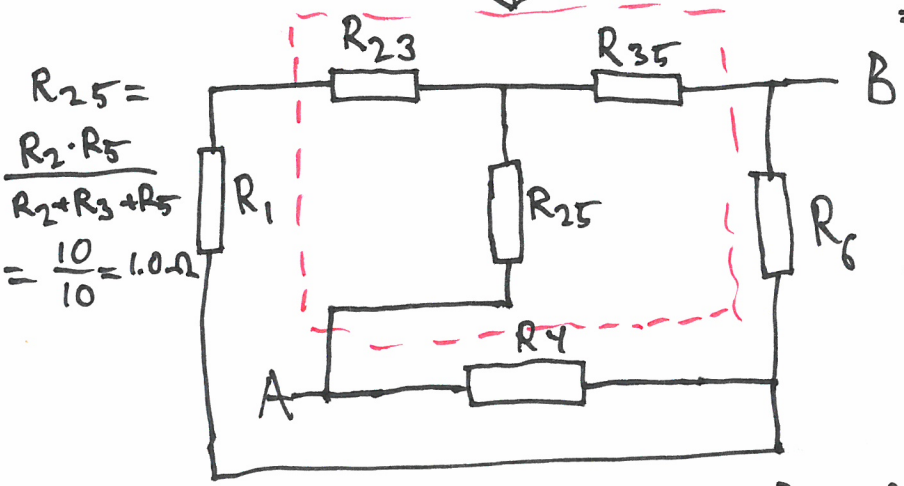
$R_3 = 3.0\,\Omega$, $R_4 = 4.0\,\Omega$

$R_5 = 5.0\,\Omega$, $R_6 = 6.0\,\Omega$

⇓

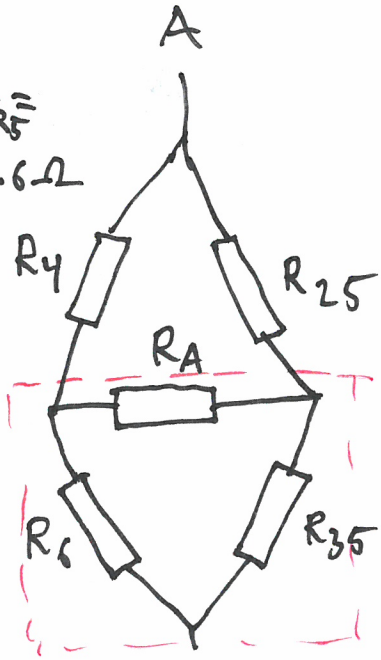
DY-transformation

$R_{23} = \frac{R_2 \cdot R_3}{R_2+R_3+R_5} = \frac{6}{10} = 0.6\,\Omega$



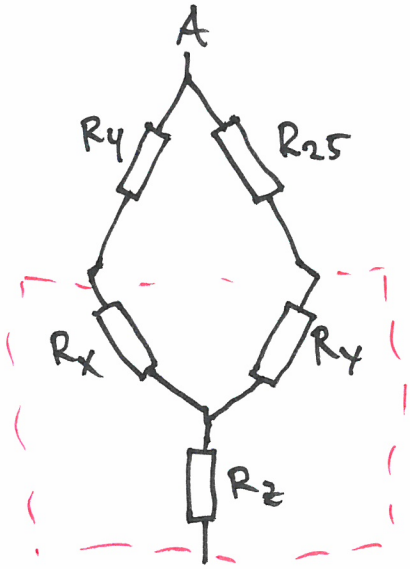
$R_{25} = \frac{R_2 \cdot R_5}{R_2+R_3+R_5} = \frac{10}{10} = 1.0\,\Omega$

$R_{35} = \frac{R_3 \cdot R_5}{10} = \frac{15}{10} = 1.5\,\Omega$



$R_A = R_1 + R_{23} = 1.6\,\Omega$

DY-transformation



$$R_x = \frac{R_A \cdot R_6}{R_A + R_6 + R_{35}} = \frac{1.6 \cdot 6}{1.6+6+1.5} = \frac{9.6}{9.1} \approx 1.1\,\Omega$$

$$R_y = \frac{R_A \cdot R_{35}}{R_A + R_6 + R_{35}} = \frac{1.6 \cdot 1.5}{9.1} \approx 0.26\,\Omega$$

$$R_z = \frac{R_6 \cdot R_{35}}{9.1} = \frac{9}{9.1} \approx 0.99\,\Omega$$

$$R_{tot} = R_z + \frac{(R_4+R_x)\cdot(R_{25}+R_y)}{R_4+R_x+R_{25}+R_y} \approx 2\,\Omega$$

$$\boxed{R_{tot} = 2.0\,\Omega}$$