

| U[V] | R_1 [Ω] | R_2 [Ω] | R_3 [Ω] | R_4 [Ω] | R_5 [Ω] | R_6 [Ω] |
|------|--------------------|--------------------|--------------------|--------------------|--------------------|--------------------|
| 180 | 250 | 315 | 615 | 180 | 460 | 120 |

Vyřešíme za využití Theveninovy věty.

$$R_{23} = R_2 + R_3 = 315 + 615 = 930\Omega$$

$$R_{45} = R_4 + R_5 = 180 + 460 = 640\Omega$$

$$R_{EKV} = R_1 + \frac{R_{23}R_{45}}{R_{23} + R_{45}} = 250 + \frac{930 \cdot 640}{930 + 640} = 629.1082802547771\Omega$$

$$I = \frac{U}{R_{EKV}} = \frac{180}{629.1082802547771} = 0.28611926698390194A$$

$$U_{R45} = U - (IR_1) = 180 - (0.28611926698390194 \cdot 250) = 108.47018325402452V$$

$$I_{R45} = \frac{U_{R45}}{R_{45}} = \frac{108.47018325402452}{640} = 0.1694846613344133A$$

$$U_i = I_{R45}R_5 = 0.1694846613344133 \cdot 460 = 77.96294421383013V$$

$$R_i = \frac{(\frac{R_{23}R_1}{R_{23}R_1} + R_4)R_5}{\frac{R_1R_{23}}{R_1 + R_{23}} + R_{45}} = \frac{(\frac{930 \cdot 250}{930 + 250} + 180) \cdot 460}{\frac{250 \cdot 930}{250 + 930} + 640} = 207.20259188012557\Omega$$

$$I_{R6} = \frac{U_i}{R_i + R_6} = \frac{77.96294421383013}{207.20259188012557 + 120} = \mathbf{0.23827116944841545\Omega}$$

$$U_{R6} = R_6 I_{R6} = 120 \cdot 0.23827116944841545 = \mathbf{28.592540333809854V}$$