IKK Südwest

LBS

$$R_{ges} = \frac{R1 \cdot R2}{R1 + R2}$$

$$\frac{24 \cdot 12}{24 + 12} = 8\,\Omega$$

$$R_3 + R_4 = 5\,\Omega + 8\,\Omega = 13\,\Omega$$

$$\frac{1}{R_4} + \frac{1}{R_5} + \frac{1}{R_6} = \frac{1}{13} + \frac{1}{17} + \frac{1}{26} = \frac{34}{442} + \frac{26}{442} + \frac{17}{442} = \frac{77}{442} = \frac{442}{77} = 5{,}74\,\Omega$$

~~13Ω + 5,74Ω = 18,74Ω = Rges~~ 8Ω + 5,74Ω = 13,74Ω Rges

~~U = R · I~~ $I = \frac{U}{R}$

~~$I = \frac{U}{R}$~~ $\frac{220V}{13{,}74\,\Omega} = 16{,}012\,A$

~~$I_1 = \frac{U_1}{R_1} = \frac{220}{24} = 9{,}16\,A$~~

~~$I_2 = U_2 = 18{,}33\,\Omega$~~

16,012 A · 8Ω = 128,096 = U_1

$I_1 = \frac{U_1}{R_1} = \frac{128.096}{24\,\Omega} = 5{,}34\,\Omega$

$I_2 = \frac{U_2}{R_2} = \frac{128{,}096}{12\,\Omega} = 10{,}67\,\Omega$

5,74Ω · 16,012 A = 91,91 = U_2 / U_3

Aufgabe 2:

$\frac{U}{R_1} = I_1 = \frac{4V}{200\Omega} = 0{,}02A$

$I_2 = 0{,}008A$

$I_3 = 0{,}002A$

$I_{ges} = 0{,}021A$

Aufgabe 3:

$\frac{1}{350\Omega} + \frac{1}{750\Omega} = \frac{400}{262500} = 656{,}25\Omega$

Aufgabe 4: $R_{ges} = \frac{1}{R_2} + \frac{1}{R_3} + R_4 = \frac{1}{}$

$R_g = \frac{1}{R_1} + \frac{1}{R_{ges}}$ 22.

$75\Omega = \frac{1}{R1} + \frac{1}{\frac{1}{R_2} + \frac{1}{R_3} + R_4}$

$7 - \frac{1}{R_1} \ldots \rightarrow R_2 = 7$