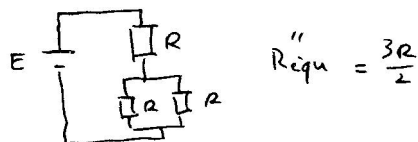


10.41. R : inconnue

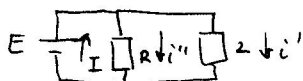


$$\Rightarrow R''_{\text{equ}} - R'_{\text{equ}} = \frac{3R}{2} - \frac{R}{3} = \frac{9R - 2R}{6} = \frac{7}{6}R = 700 \Rightarrow \underline{R = 600 \Omega}$$

10.42. R : inconnue



- série -



- parallèle -

Loi de Kirchhoff:

$$I = 5i = i' + i''$$

$$E - (R+2)i = 0 \Rightarrow i = \frac{E}{R+2} \quad (\text{série})$$

$$E = R i' = 2 i'' \Rightarrow i' = \frac{E}{R} \quad (\text{parallèle})$$

$$i'' = \frac{E}{2}$$

$$5i = 5 \cdot \frac{E}{R+2} = \frac{E}{R} + \frac{E}{2} \Rightarrow \frac{5}{R+2} = \frac{1}{R} + \frac{1}{2} \Rightarrow \frac{5}{R+2} = \frac{R+2}{2R} \Rightarrow 10R = R^2 + 4 + 4R$$

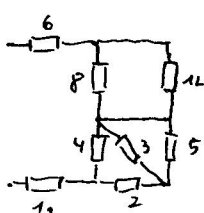
$$R^2 - 6R + 4 = 0$$

$$R'_{\text{eq}} = 3 \pm \sqrt{9-4} = 3 \pm \sqrt{5} \Rightarrow \underline{5,2 \Omega}$$

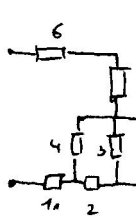
$$\Rightarrow \underline{0,76 \Omega}$$

10.43.

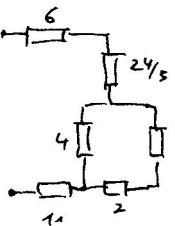
a).



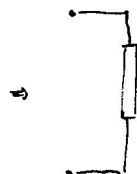
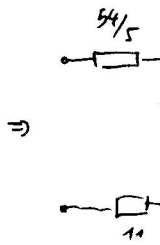
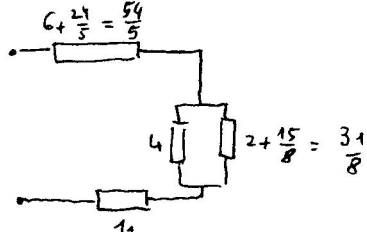
$\Rightarrow$



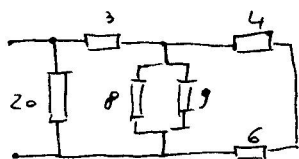
$\Rightarrow$



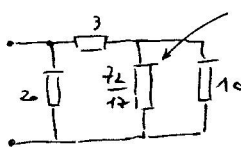
$\Rightarrow$



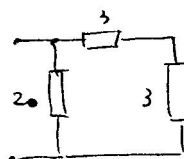
b).



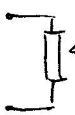
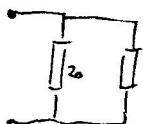
$\Rightarrow$



$\Rightarrow$

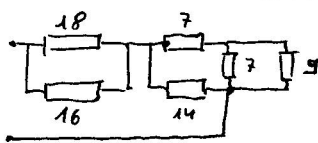


$\Rightarrow$

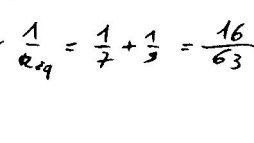
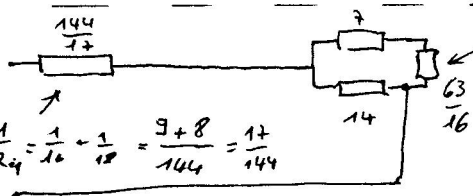


$$\frac{1}{R_{\text{eq}}} = \frac{1}{20} + \frac{1}{6} = \frac{7+60}{60} = \frac{13}{60} \Rightarrow R = \frac{60}{13} = \underline{4,6 \Omega}$$

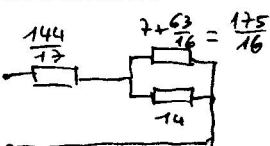
c).



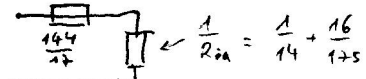
$\Rightarrow$



$\Rightarrow$



$\Rightarrow$



$$\frac{1}{R_{\text{eq}}} = \frac{1}{14} + \frac{16}{175} \Rightarrow R_{\text{eq}} \approx 6,14 \Omega \Rightarrow \underline{14,6 \Omega}$$