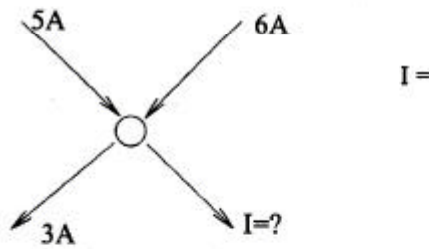
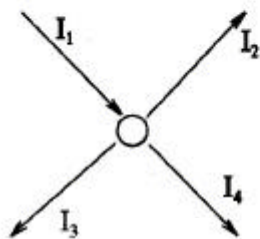


Knotenpunktsatz und Maschensatz

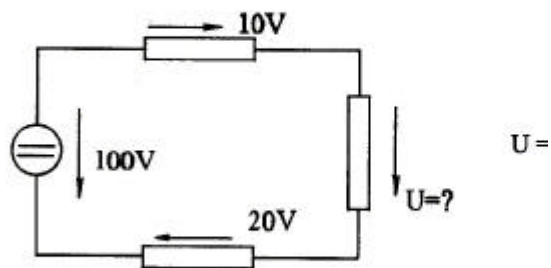
Beispiel 1:



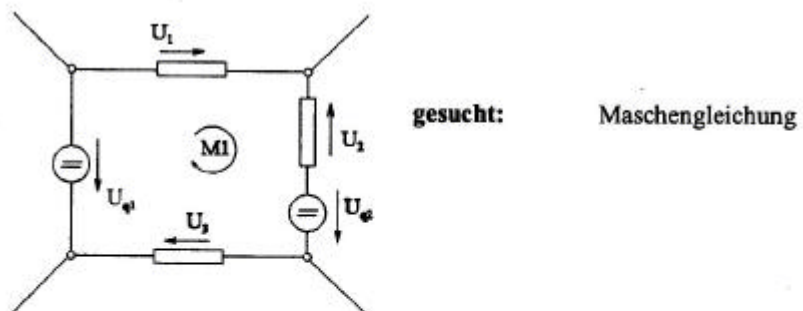
Beispiel 2:



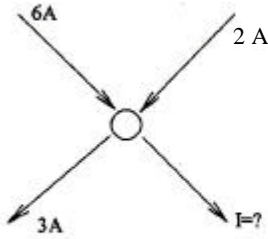
Beispiel 3:



Beispiel 4:

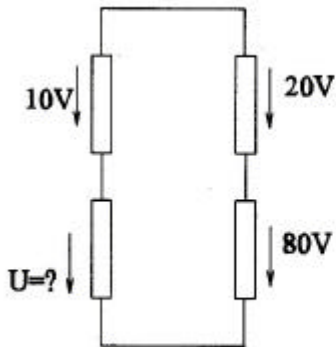


Beispiel 5:



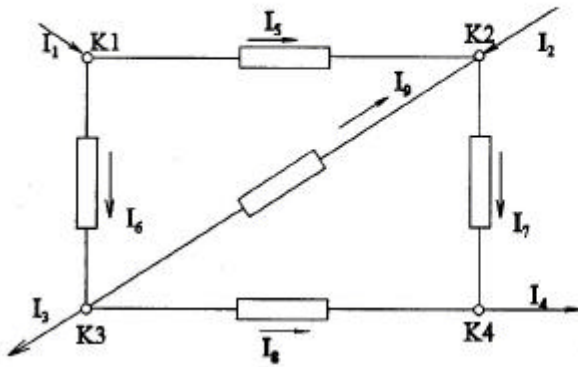
Ergebnis: $I =$

Beispiel 6:



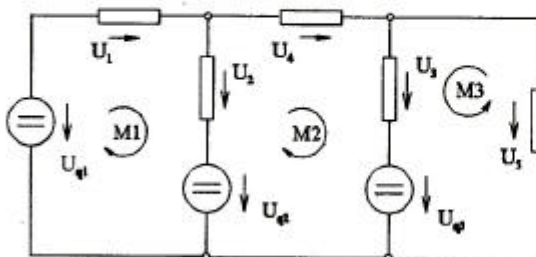
Ergebnis: $U =$

Beispiel 7:



K1 =
K2 =
K3 =
K4 =

Beispiel 8:

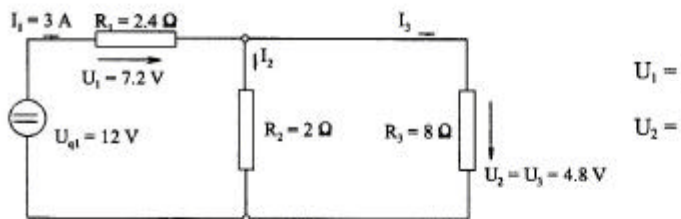
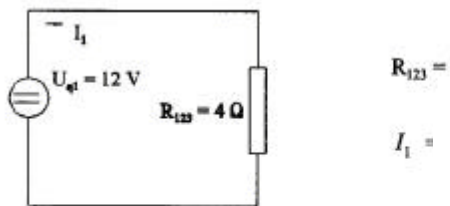
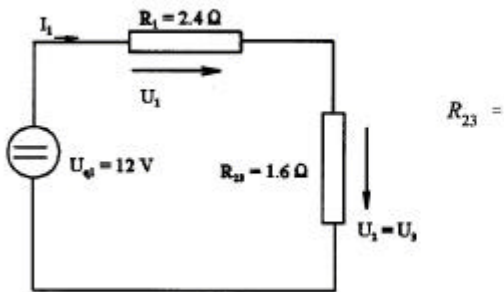
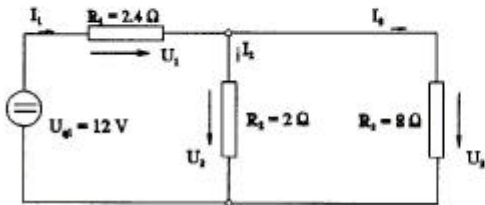


M1 =
M2 =
M3 =

Berechnung von Netzen mit einer Spannungsquelle mit Hilfe des Ersatzwiderstandes

Prinzip: Das Netz wird soweit zu einem Ersatzwiderstand umgeformt, daß an der Spannungsquelle nur noch ein Ersatz-Widerstand vorhanden ist. Danach werden rückwärts alle anderen elektrischen Größen berechnet. Dazu drei Beispiele.

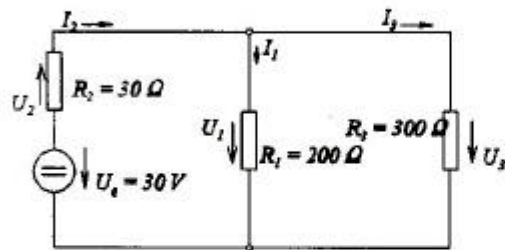
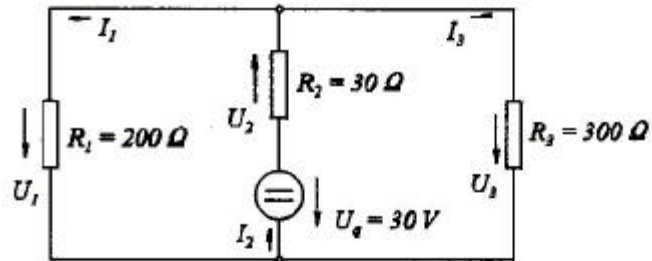
Beispiel 1:



$$I_2 =$$

$$I_3 =$$

Beispiel 2:



$R_{ges} =$

$I_2 =$

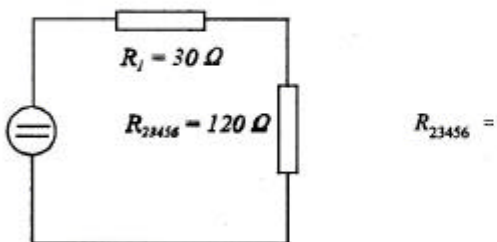
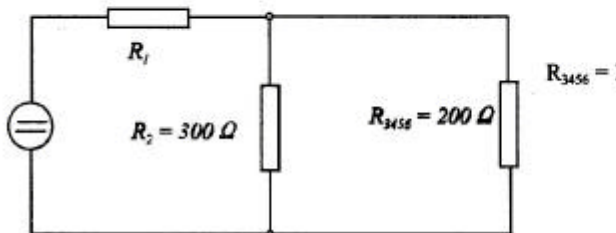
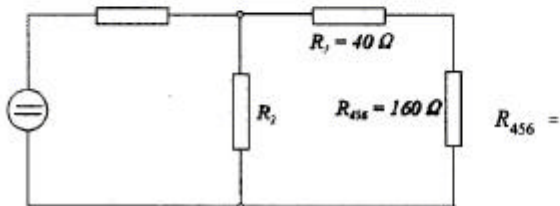
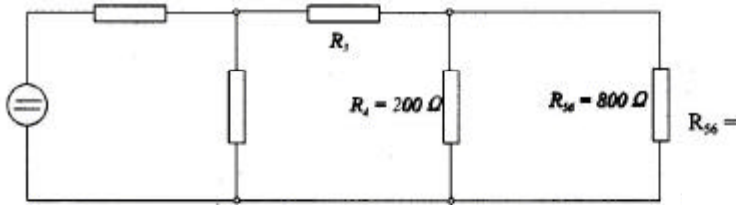
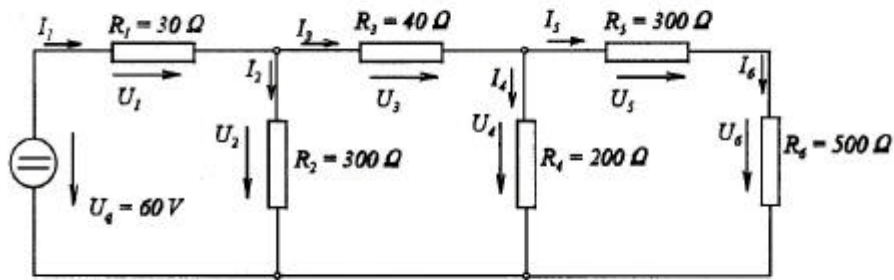
$U_2 =$

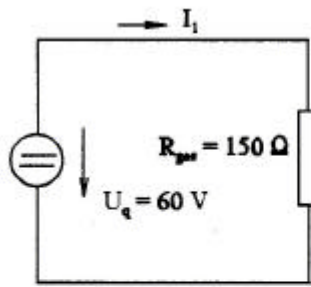
$U_1 =$

$I_1 =$

$I_3 =$

Beispiel 3:





$$R_{ges} =$$

$$I_1 =$$

$$U_1 =$$

$$U_2 =$$

$$I_2 =$$

$$I_3 =$$

$$U_3 =$$

$$U_4 =$$

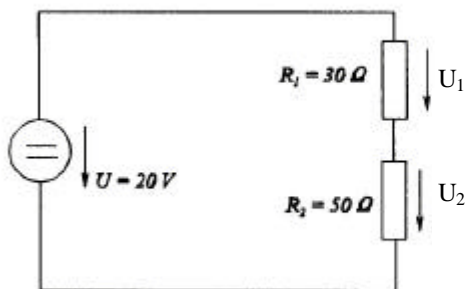
$$I_4 =$$

$$I_5 =$$

$$U_5 =$$

$$U_6 =$$

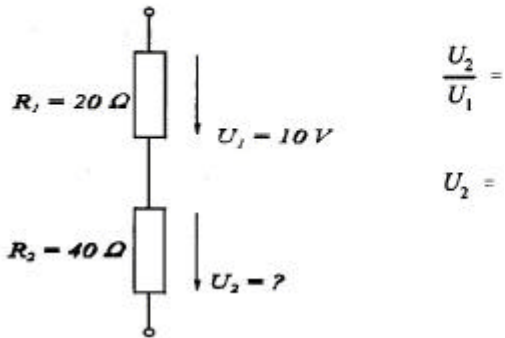
Beispiel 1:



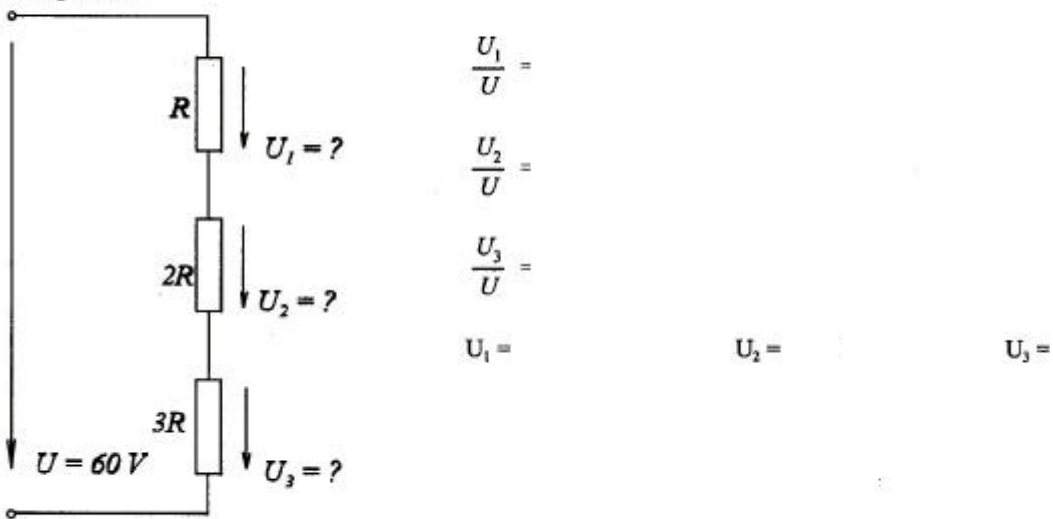
$$U_1 =$$

$$U_2 =$$

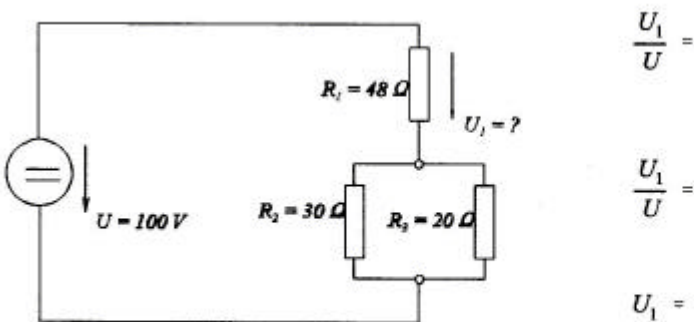
Beispiel 2:



Beispiel 3:

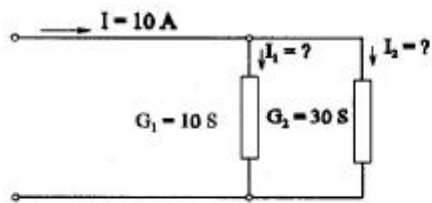


Beispiel 4:



Stromteiler:

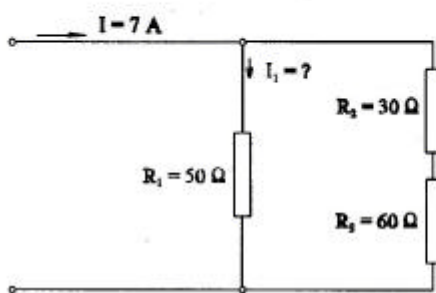
Beispiel 1:



$$\frac{I_1}{I} = \quad \Rightarrow \quad I_1 =$$

$$\frac{I_2}{I} = \quad \Rightarrow \quad I_2 =$$

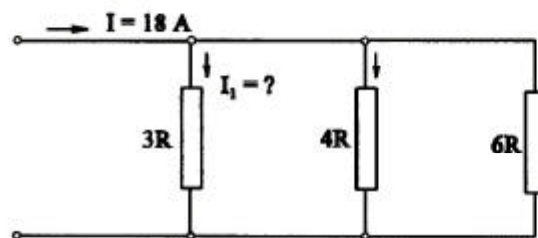
Beispiel 2:



$$\frac{I_1}{I} =$$

$$I_1 =$$

Beispiel 3:



$$\frac{I_1}{I} =$$

$$I_1 =$$