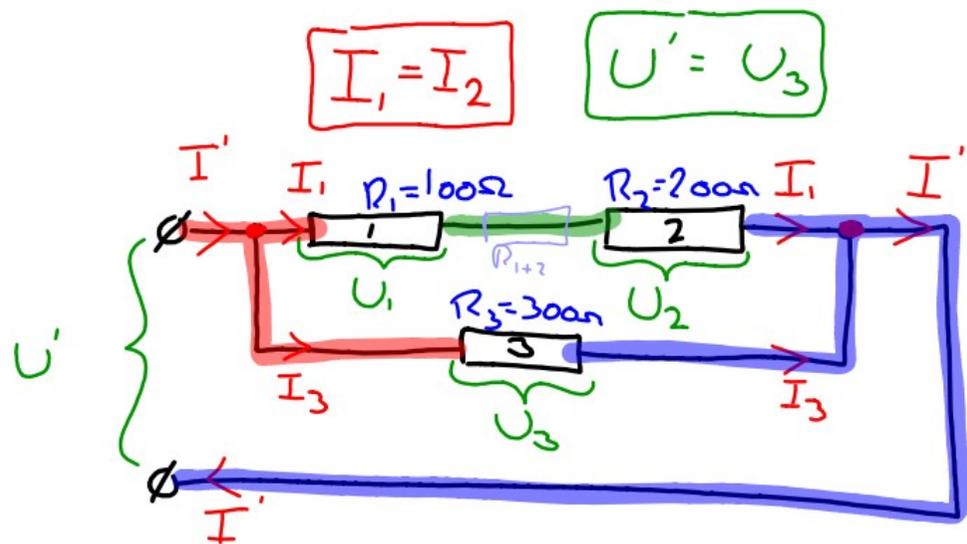


# BLANDEDE KREDSLØB

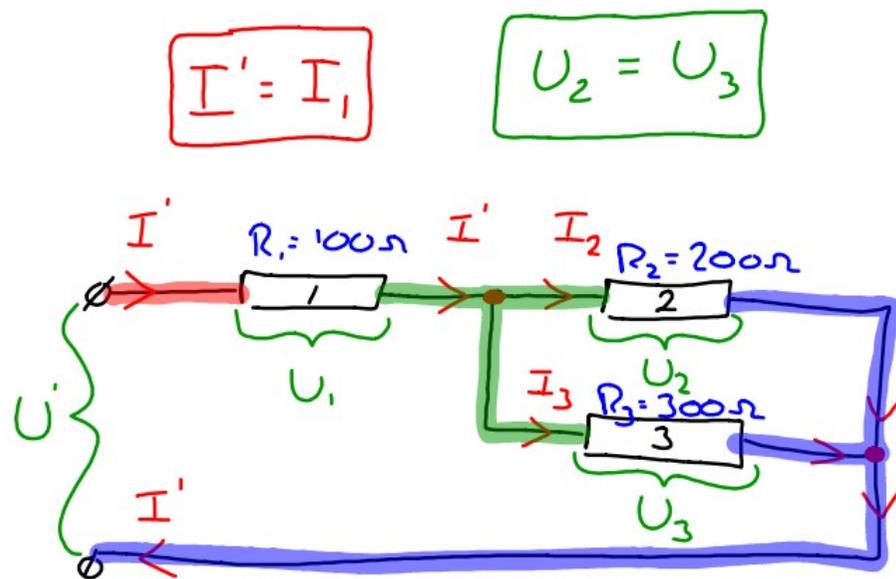
(BLANDEDE FORBINDELSER)



KREDSENS SAMLEDE MODSTAND

$$\textcircled{1} R_{1+2} = R_1 + R_2 = 100 + 200 = \underline{300\Omega}$$

$$\textcircled{2} R' = (R_{1+2}^{-1} + R_3^{-1})^{-1} = (300^{-1} + 300^{-1})^{-1} = \underline{\underline{150\Omega}}$$

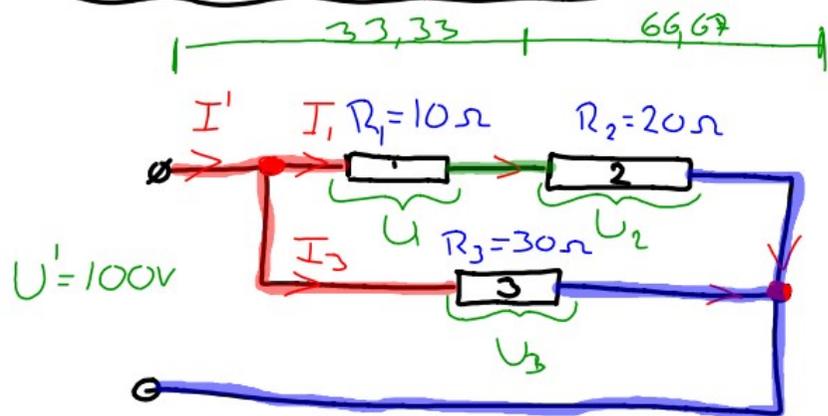


KREDSENS SAMLEDE MODSTAND

$$\textcircled{1} R_{2+3} = (R_2^{-1} + R_3^{-1})^{-1} = (200^{-1} + 300^{-1})^{-1} = \underline{120\Omega}$$

$$\textcircled{2} R' = R_1 + R_{2+3} = 100 + 120 = \underline{\underline{220\Omega}}$$

# TAVLE OPGAVE



KIRCHHOFF  $\Rightarrow$   $I_1 = I_2$   $U' = U_3$

	U	I	R
1	33,33V	3,33A	10Ω
2	66,67V	—	20Ω
3	100V	3,33A	30Ω
tot	100V	6,67A	15Ω

$$\textcircled{1} R_{1+2} = R_1 + R_2 = 10 + 20 = \underline{30\Omega}$$

$$\textcircled{2} R' = (R_{1+2}^{-1} + R_3^{-1})^{-1} = (30^{-1} + 30^{-1})^{-1} = \underline{15\Omega}$$

$$\textcircled{3} I' = \frac{U'}{R'} = \frac{100}{15} = \underline{6,67A}$$

$$\textcircled{4} I_3 = \frac{U_3}{R_3} = \frac{100}{30} = \underline{3,33A}$$

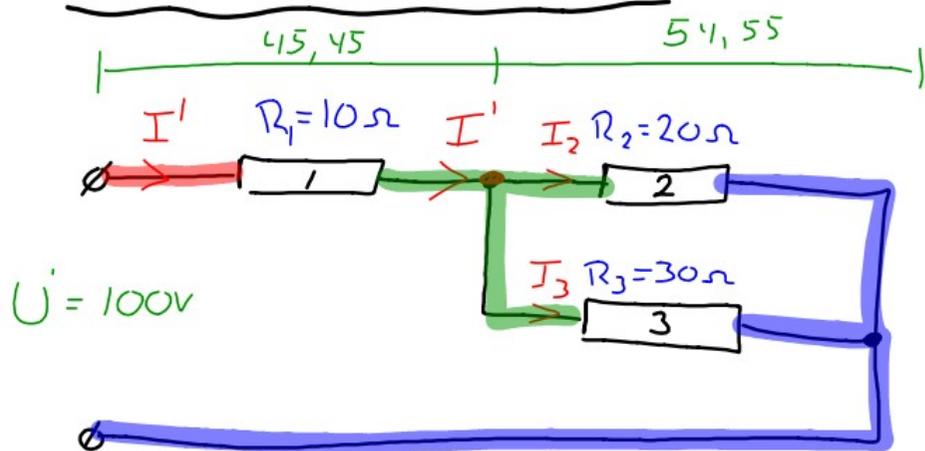
$$\textcircled{5} I_1 = I' - I_3 = 6,67 - 3,33 = \underline{3,33A}$$

$$\textcircled{7} U_1 = I_1 \times R_1 = 3,33 \times 10 = \underline{33,33V}$$

$$\textcircled{8} U_2 = I_2 \times R_2 = 3,33 \times 20 = \underline{66,67V}$$

$$\textcircled{k} U_2 = U' - U_1 = 100 - 33,33 = \underline{66,67V}$$

# TAVLE OPGAVE



$$U' = 100V$$

KIRCHOFFS  $\rightarrow$   $I' = I_1$   $U_2 = U_3$

	U	I	R
1	45,45V	4,55A	10Ω
2	54,55V	2,73A	20Ω
3	— " —	1,82A	30Ω
TOT	100V	4,55A	22Ω

$$\textcircled{1} R_{2+3} = (R_2^{-1} + R_3^{-1})^{-1} = (20^{-1} + 30^{-1})^{-1} = \underline{12\Omega}$$

$$\textcircled{2} R' = R_1 + R_{2+3} = 10 + 12 = \underline{22\Omega}$$

$$\textcircled{3} I' = \frac{U'}{R'} = \frac{100}{22} = \underline{4,55A}$$

$$\textcircled{4} U_1 = I_1 \times R_1 = 4,55 \times 10 = \underline{45,45V}$$

$$\textcircled{5} U_2 = U' - U_1 = 100 - 45,45 = \underline{54,55V}$$

$$\textcircled{6} I_2 = \frac{U_2}{R_2} = \frac{54,55}{20} = \underline{2,73A}$$

$$\textcircled{7} I_3 = I' - I_2 = 4,55 - 2,73 = \underline{1,82A}$$

$$\textcircled{8} I_3 = \frac{U_3}{R_3} = \frac{54,55}{30} = \underline{1,82A}$$