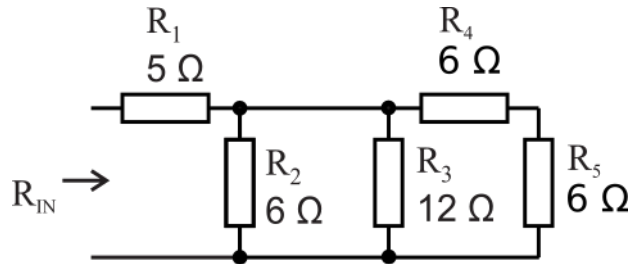


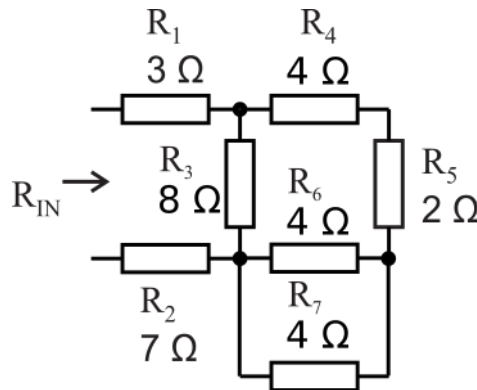
HOMEWORK №1.

Problem 1. For the circuit below:



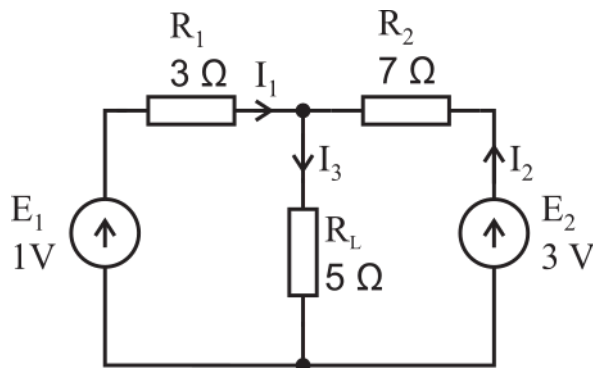
- 1) Obtain the input resistance R_{IN} of the circuit (**3 points**);
- 2) Obtain the power dissipated in the circuit if it is powered by an input voltage $U_{IN}=12\text{ V}$ (**2 points**).

Problem 2. For the circuit below:



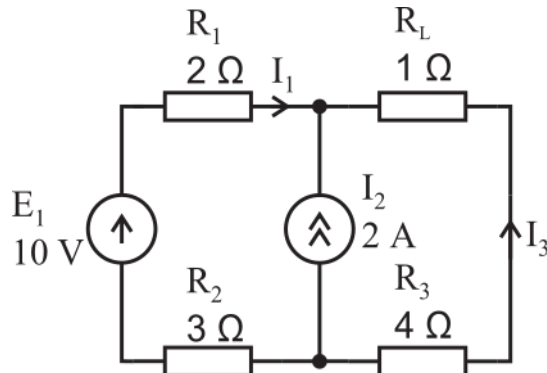
- 1) Obtain the input resistance R_{IN} of the circuit (**3 points**);
- 2) Obtain the power dissipated in the circuit if it is powered by an input voltage $U_{IN}=6\text{ V}$ (**2 points**).

Problem 3. Obtain the branch currents and the power, dissipated by the load R_L (**5 points**).

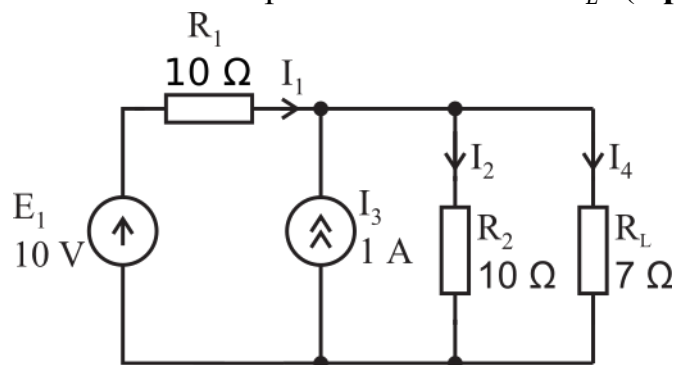


Homework in Theory of Electrical Engineering. DC steady state circuits analysis. University of Ruse Angel Kanchev.

Problem 4. Obtain the branch currents and the power, dissipated by the load R_L (5 points).

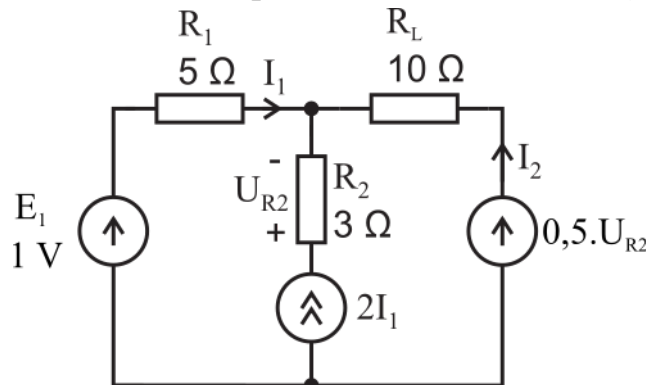


Problem 5. Obtain the current and power of the load R_L (5 points).



Note: It is recommended to use nodal analysis or to use an equivalent current/voltage source.

Problem 6. Obtain the current and power of the load R_L (5 points).



Note: There are two dependent sources in the circuit.