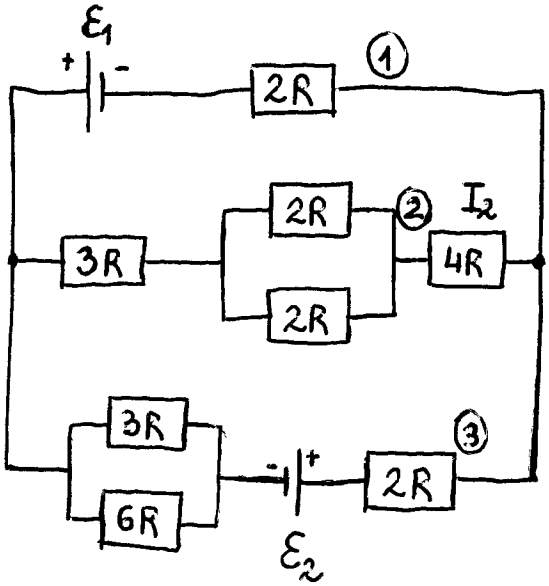
23.) $\mathcal{E}_1 = 4{,}5\,V$ $\mathcal{E}_2 = 16\,V$ $R = 1\,\Omega$ $R_b \approx 0$ $P_{4R} = ?$



soros: $\boxed{R_e = \sum R_i}$

párhuzamos: $\boxed{\frac{1}{R_e} = \sum \frac{1}{R_i}}$

csomópont: $\boxed{\sum I_i = 0}$

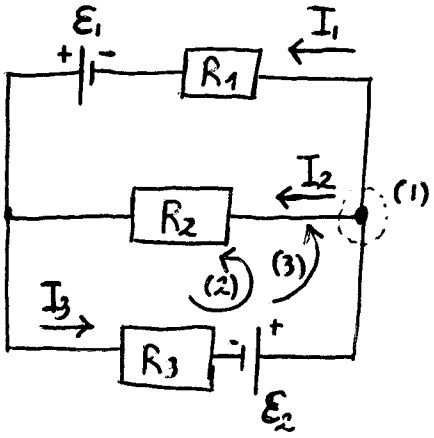
hurok: $\boxed{\sum U_i = 0}$

$\boxed{P = I^2 R}$ $\boxed{U = IR}$

ágak eredő ellenállásai:

$R_1 = 2R$ $R_2 = 3R + \frac{2R \cdot 2R}{4R} + 4R = \dots$ $R_3 = \frac{3R \cdot 6R}{9R} + 2R = \dots$

egyszerűsítve:



(1) $I_3 = I_2 + I_1$

(2) $\mathcal{E}_2 - I_2 R_2 - I_3 R_3 = 0$

(3) $\mathcal{E}_2 - I_1 R_1 + \mathcal{E}_1 - I_3 R_3 = 0$

$\Rightarrow I_2$

$P_{4R} = I_2^2 (4R) = \dots$