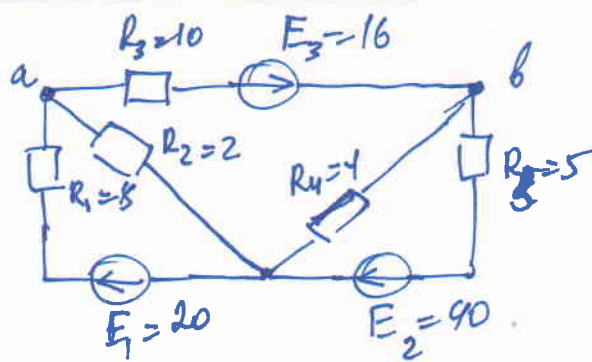
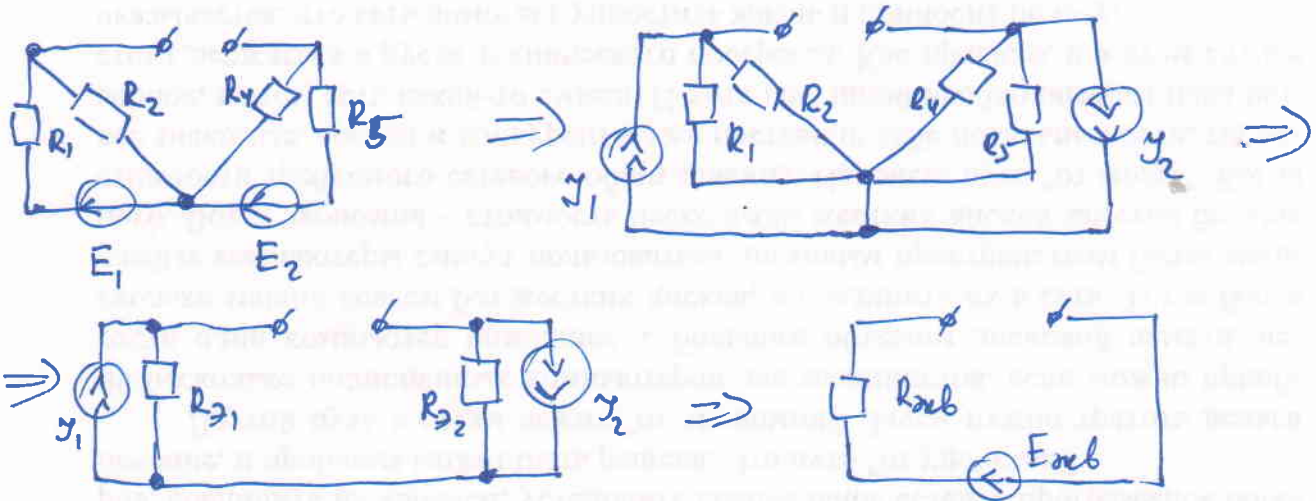


Задача 1



Размыкаем цепь содержащую R_3 и E_3 :



$$J_1 = \frac{E_1}{R_1} = \frac{20}{8} = 2,5 \text{ A}; \quad J_2 = \frac{E_2}{R_5} = \frac{90}{5} = 18 \text{ A}$$

$$R_{31} = \frac{R_1 R_2}{R_1 + R_2} = \frac{8 \cdot 2}{8 + 2} = 1,6 \text{ Ом}; \quad R_{32} = \frac{R_4 R_5}{R_4 + R_5} = \frac{4 \cdot 5}{4 + 5} = \frac{20}{9} = 2,2 \text{ Ом}$$

$$R_{св} = R_{31} + R_{32} = 1,6 + 2,2 = 3,8 \text{ Ом}; \quad E_{св} = J_1 R_{31} + J_2 R_{32} = 2,5 \cdot 1,6 + 18 \cdot 2,2 = 44 \text{ В}$$

$$I_{ab} = \frac{E_{св} + E_3}{R_{св} + R_3} = \frac{44 + 16}{3,8 + 10} = 4,34 \text{ A}$$