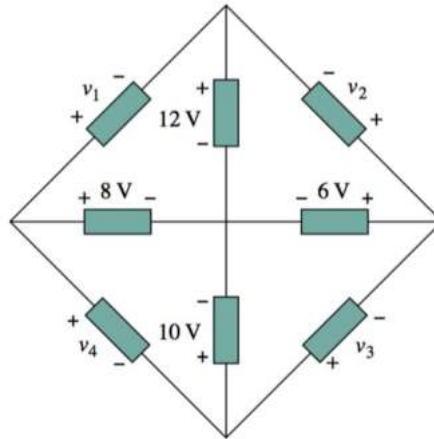
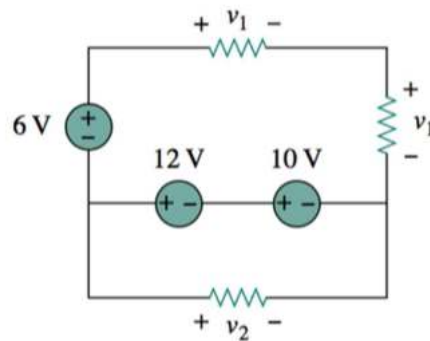


Homework #2

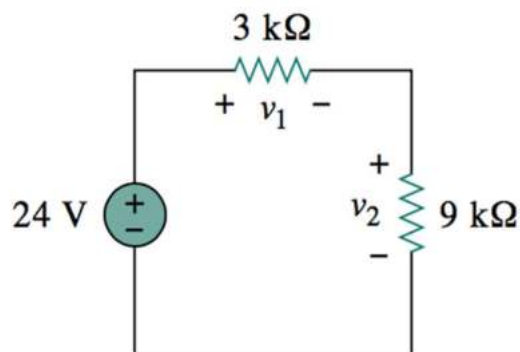
1. Determine v_1 , v_2 , v_3 and v_4 in the circuit below.



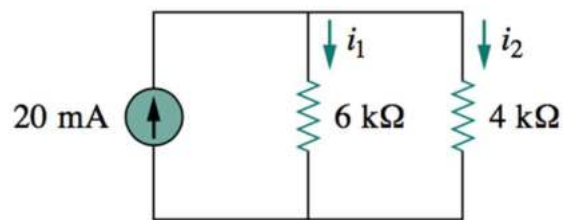
2. Determine v_1 and v_2 in the circuit below.



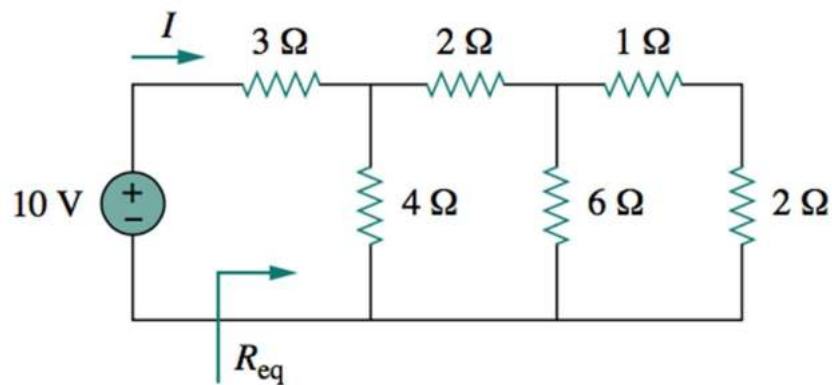
3. Find v_1 and v_2 in the circuit below.



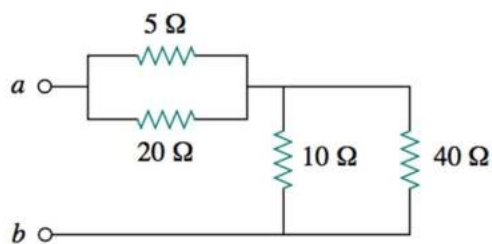
4. Find i_1 and i_2 in the circuit below.



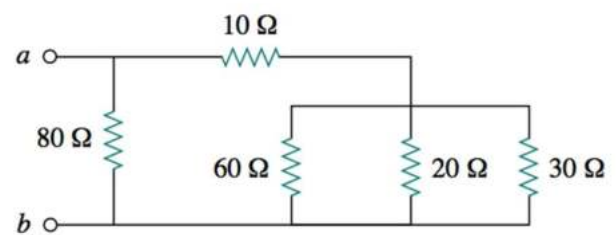
5. For the ladder network find I and R_{eq} .



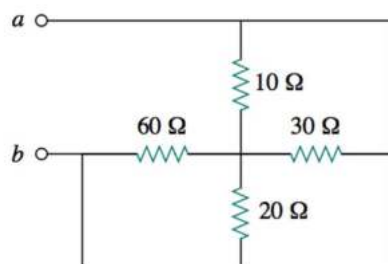
6. Calculate the equivalent resistance R_{ab} at terminals a - b for each of the circuits



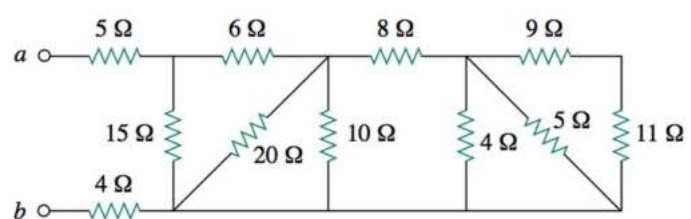
(a)



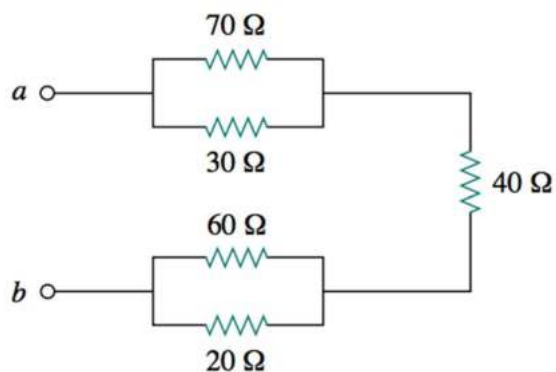
(b)



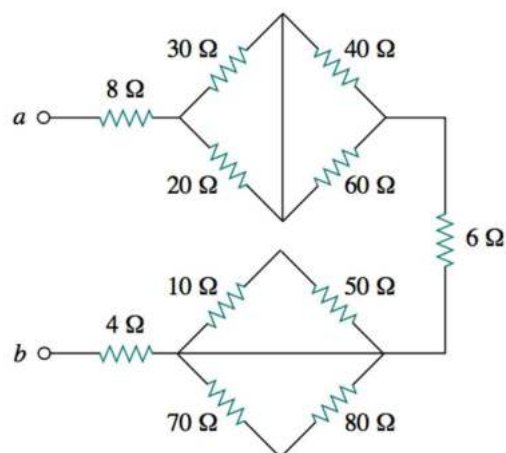
(c)



(d)

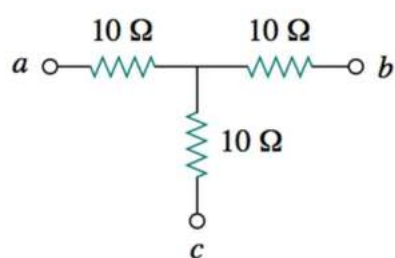


(e)

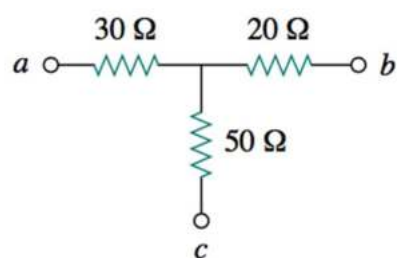


(f)

7. Convert the circuits from Y to Δ .

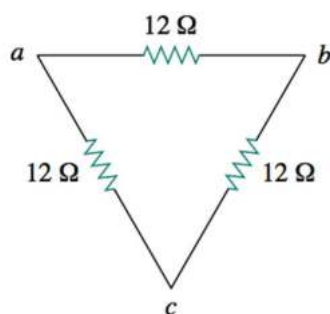


(a)

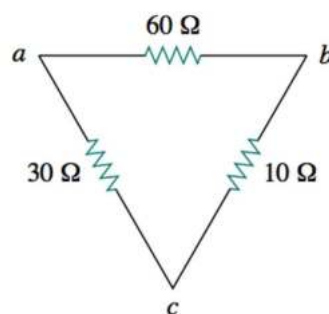


(b)

8. Transform the circuits from Δ to Y.

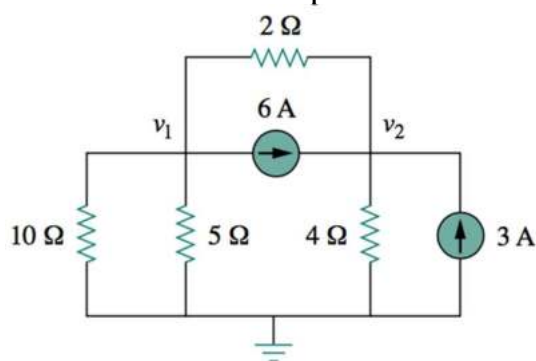


(a)

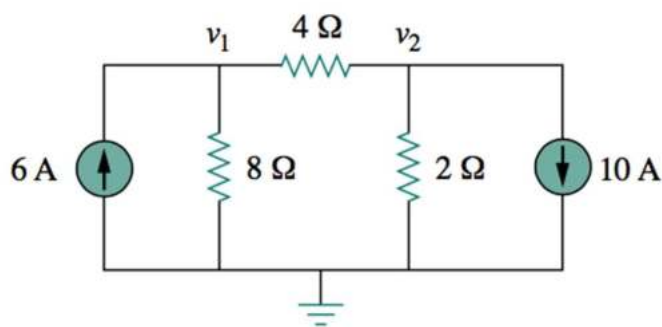


(b)

9. Write the nodal equations for the networks below, and solve for v_1 and v_2 .

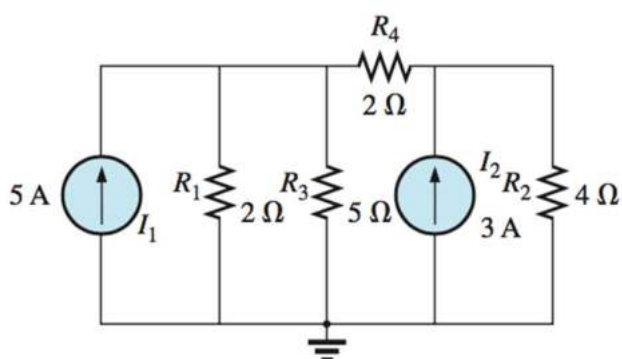


(a)

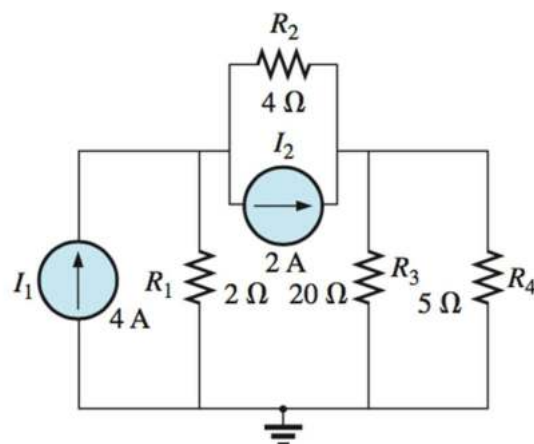


(b)

10. Write the nodal equations for the networks below, and solve for the nodal voltages.

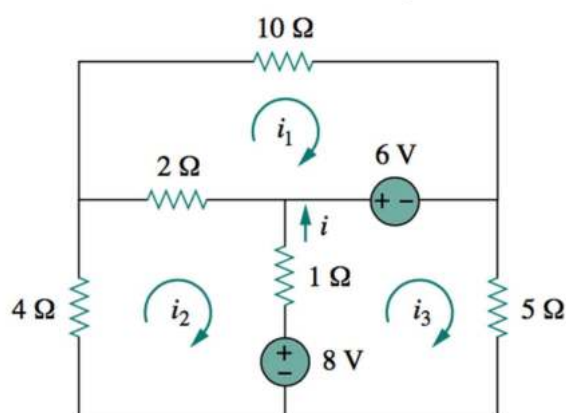


(a)

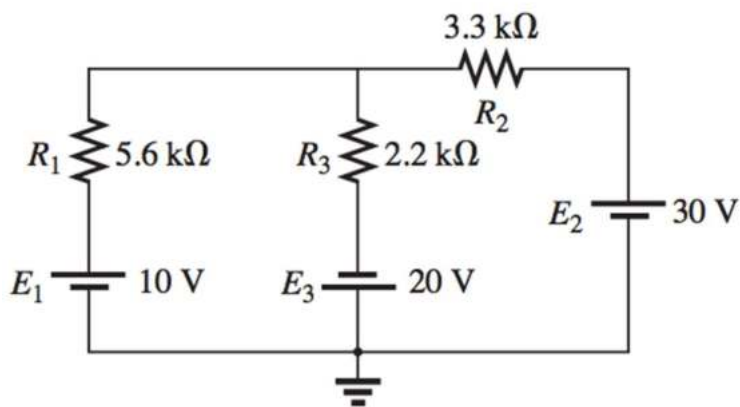


(b)

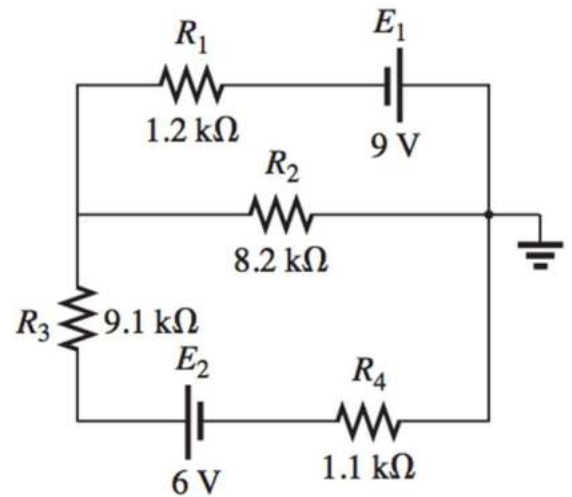
11. Apply mesh analysis to find current i flowing in $1\ \Omega$ resistor as shown.



12. Using mesh analysis, find the current through each resistor in the networks.



(a)



(b)

13. Using mesh analysis, find the current through each resistor in the networks.

