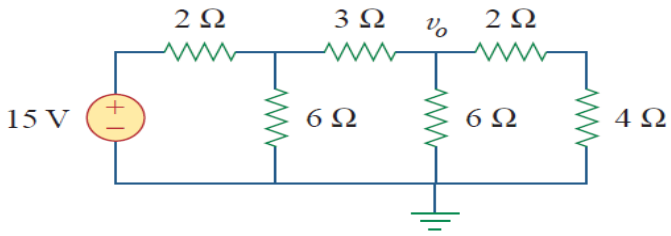
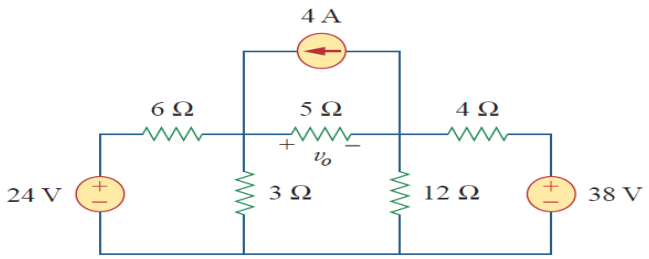
Tutorial 11 **Date: 6th Feb, 2023**

Source transformation, Norton, Thevenin and Max Power transfer Theorems

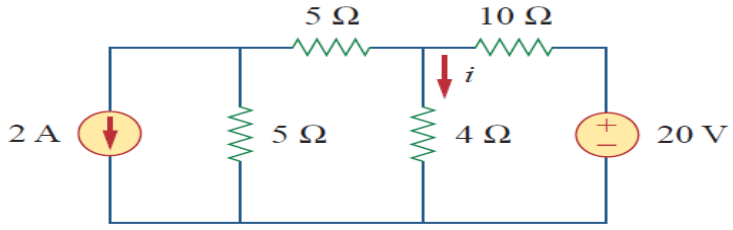
1. For the circuit in Fig. 1, assume v_0 =1V, and use linearity to find the actual value of v_0.



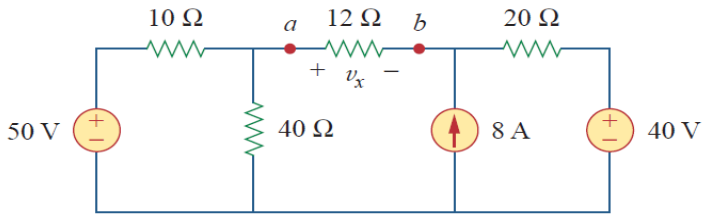
2. Determine in the circuit of Fig. 2 using the superposition principle.



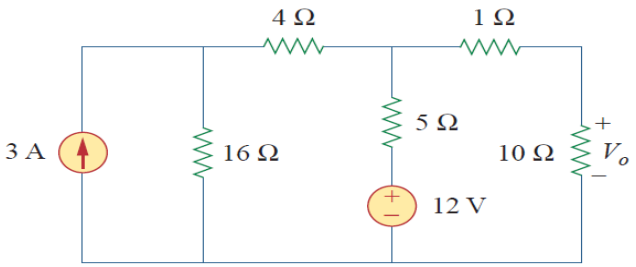
3. For the circuit in Fig. 3, use source transformation to find i.



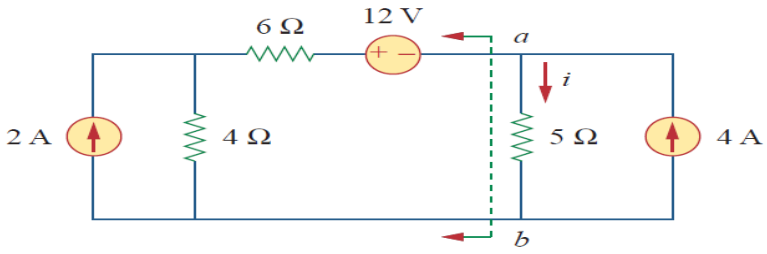
4. Apply source transformation to find v_x in the circuit of Fig. 4.



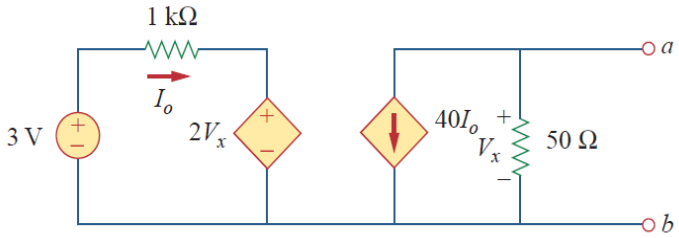
5. Apply Thevenin's theorem to find V_0 in the circuit of Fig. 5.



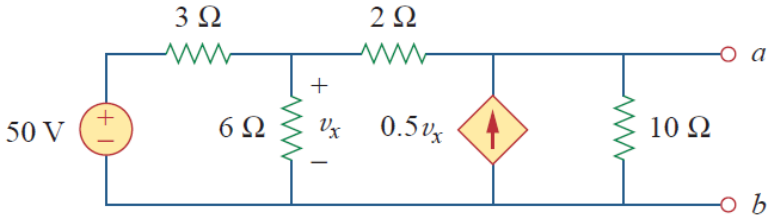
6. Obtain the Norton equivalent of the circuit in Fig. 6 to the left of terminals a-b. Use the result to find current i.



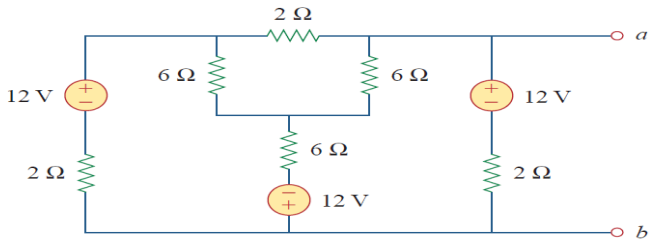
7. Find the Thevenin equivalent between terminals a-b of the circuit in Fig. 7



8. Obtain the Thevenin and Norton equivalent circuits at terminals a-b for the circuit in Fig. 8.



9. Obtain the Thevenin and Norton equivalent circuits at terminals a-b for the circuit in Fig. 9.



10. Determine the maximum power delivered to the variable resistor R shown in the circuit of Fig. 10.