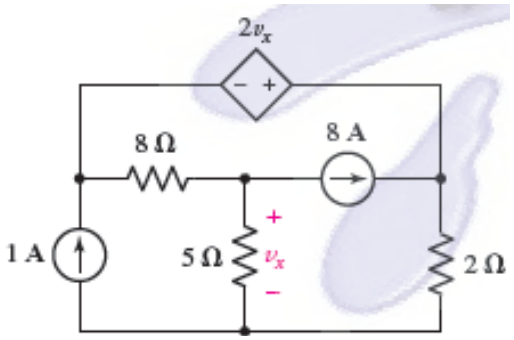
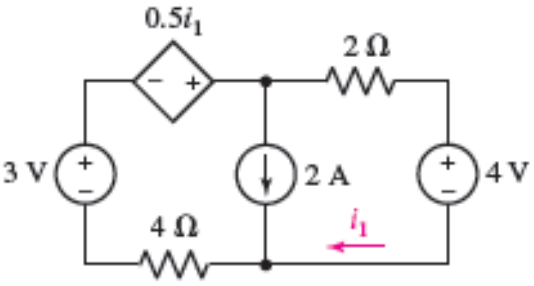
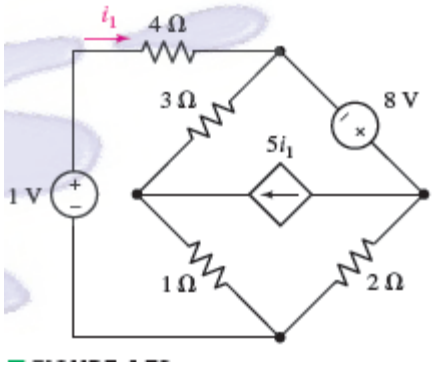
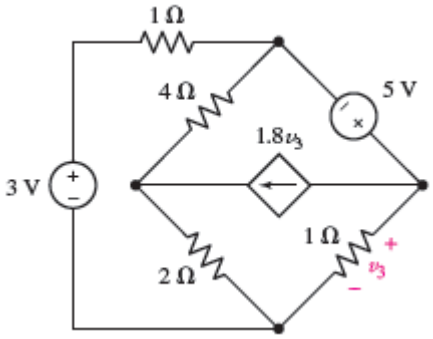
1) Using Mesh Analysis methode, Find the power supplied by each current source.



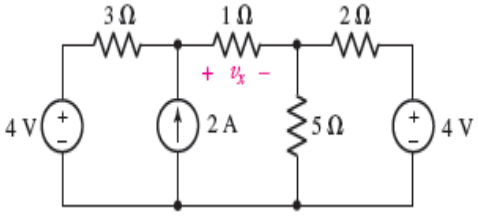
2) Using Mesh Analysis find the labeled currents and voltages in each figure.

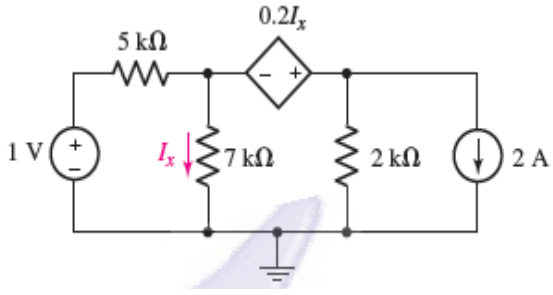


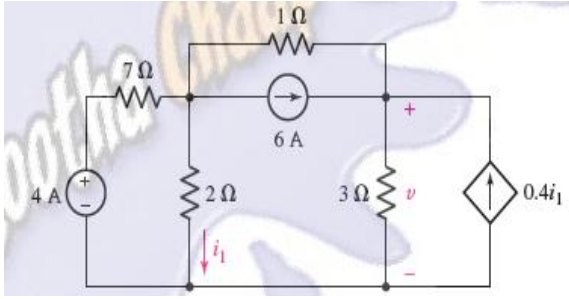




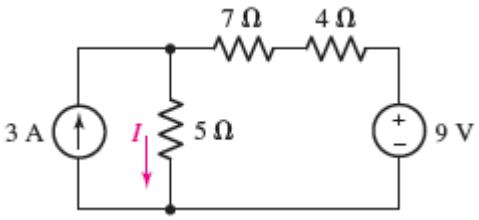
3) Using Superposition find the labeled currents and voltages in each of the following figures.

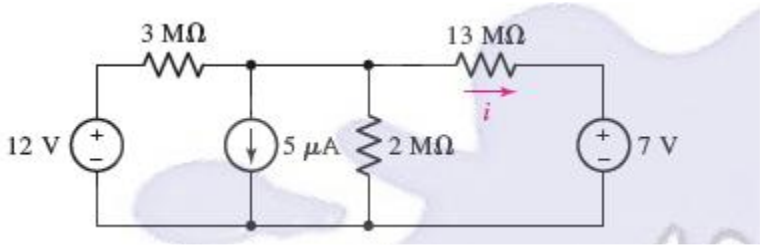




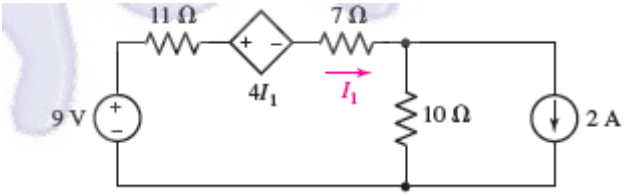


4) Using source transformation only, find the labeled current in the following two circuits:

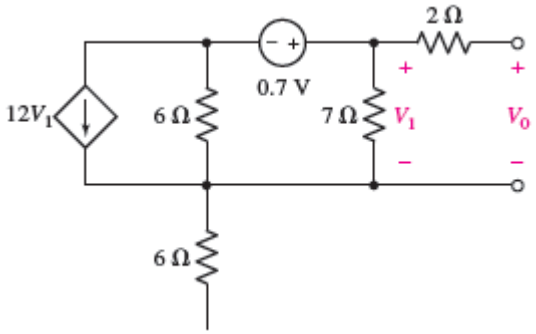




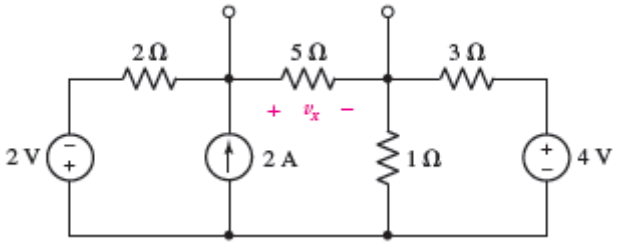
5) Using source transformation, find Thevenin equivalent of the following circuit as seen by the 7 ohm resistance, then find the current I :



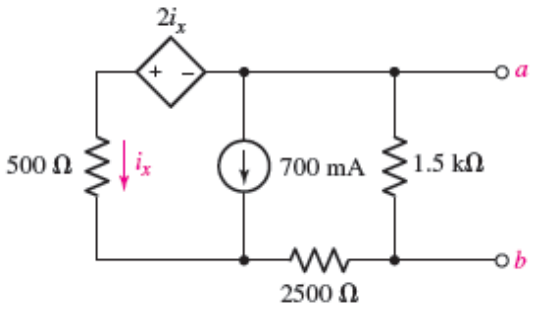
6) Using Source transformation, find the output voltage Vo.

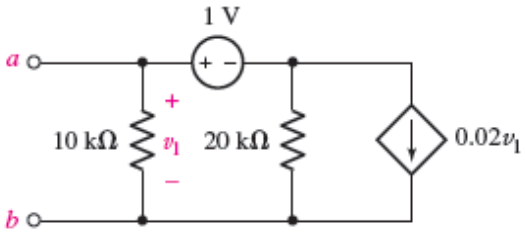


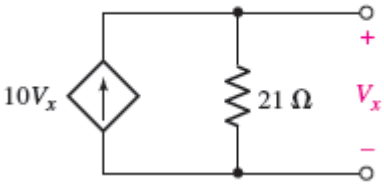
7) Using Thevinin Theorem, Find Vx in the following circuit:

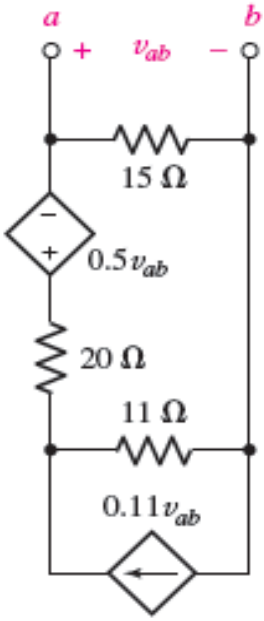


8) find the Thevenin equivalent circuit as seen from the open circuit terminals for the following circuits:

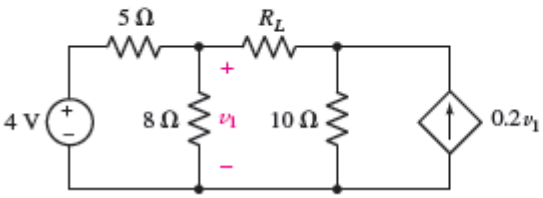




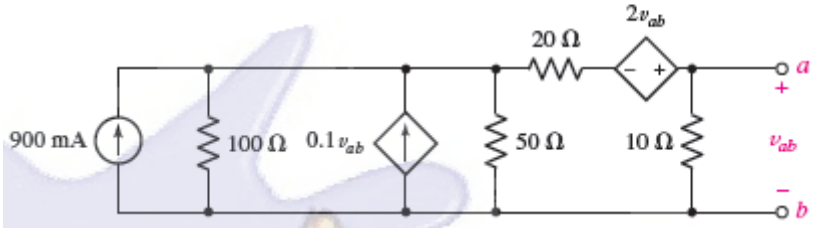




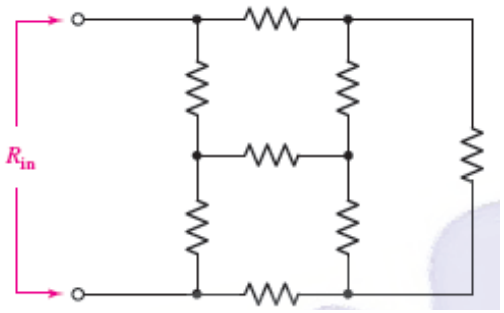
9) Select a value for R_L in Fig. 5.93 such that it is ensured to absorb maximum power from the circuit.



9) Determine what value of resistance would absorb maximum power from the circuit of Fig. 5.94 when connected across terminals a and b.

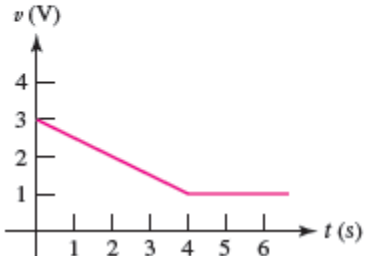


10) find the equivalent resistance Rin for the following network, (each resistanc is 2.2 Kohm)



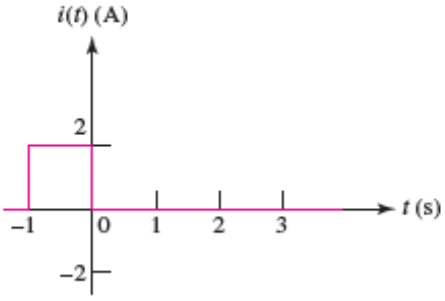
11)

3. (*a*) If the voltage waveform depicted in Fig. 7.41 is applied across the terminals of a 1 μF electrolytic capacitor, graph the resulting current, assuming the passive sign convention. (*b*) Repeat part (*a*) if the capacitor is replaced with a 17.5 pF capacitor.

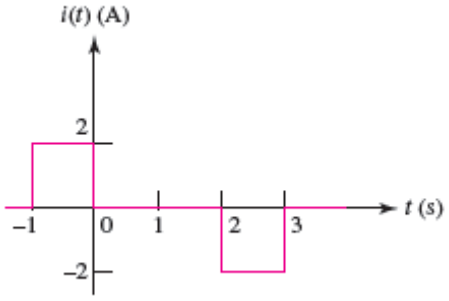


12)

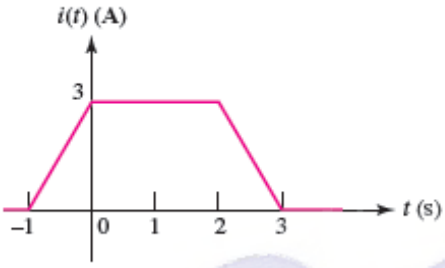
10. Assuming the passive sign convention, sketch the voltage which develops across the terminals of a 2.5 F capacitor in response to the current waveforms shown in Fig. 7.42.



(*a*)



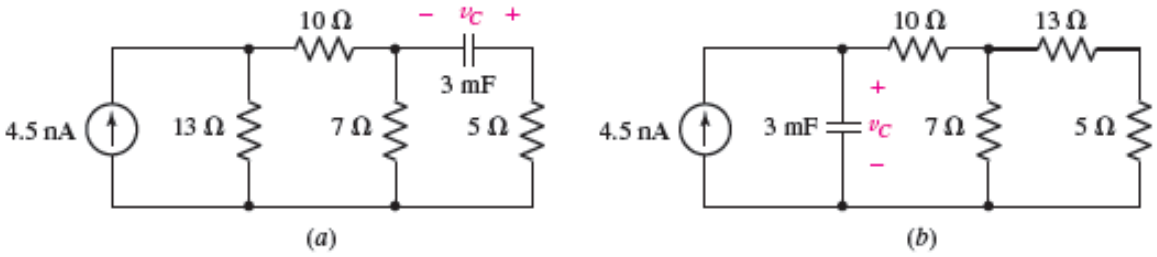
(*b*)



(*c*)

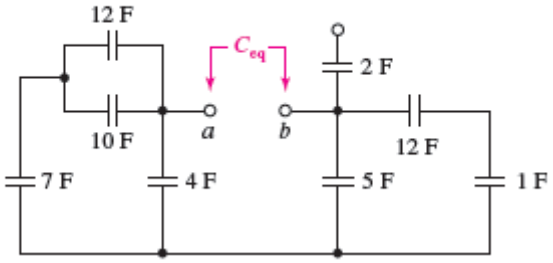
13)

15. For each circuit shown in Fig. 7.45, calculate the voltage labeled v_C.



14)

35. Determine the equivalent capacitance C_{eq} of the network shown in Fig. 7.56.



15)

46. (*a*) Write nodal equations for the circuit of Fig. 7.66. (*b*) Write mesh equations for the same circuit.