EE 202 (122)- HW3

Due Monday March 11, 2013

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Question 1:

For the circuit shown in Figure 1, use source transformation to find the current i_o.
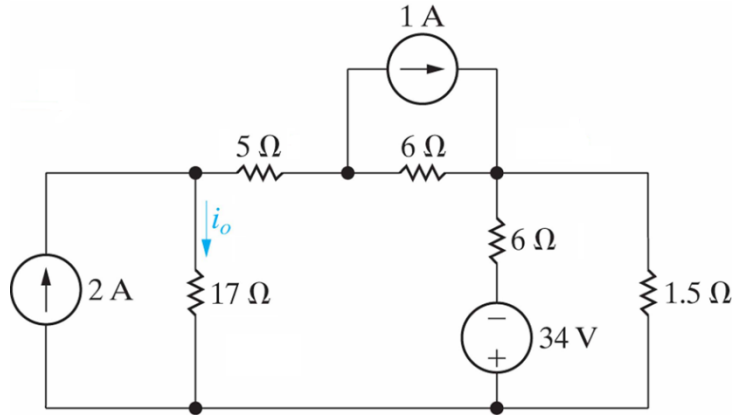

Figure 1

Question 2:

For the circuit shown in Figure 1, use source transformation to find the power dissipated by the 5 Ω resistor.

Question 3:

For the circuit shown in Figure 2, use source transformation to find the following:
   a) The voltage v_o.
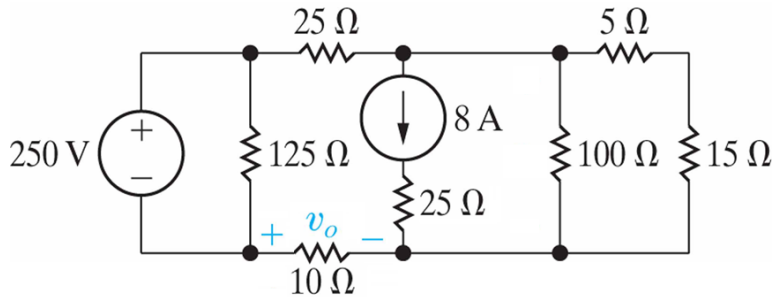   b) The power dissipated by the 10 Ω resistor.

Figure 2

Question 4:

For the circuit shown in Figure 3, find the Thevenin equivalent circuit with respect to the terminals a,b.
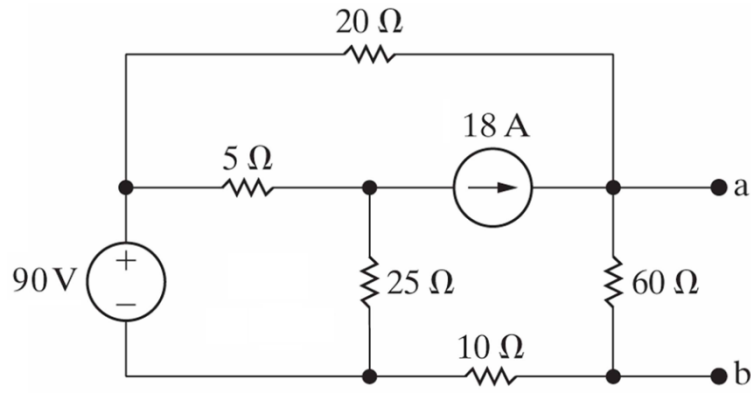

Figure 3

Question 5:

For the circuit shown in Figure 4,
   a) Find the open circuit voltage V_{oc} with respect to the terminals a, b. Use the mesh-current method.
   b) Find the short circuit current I_{sc} with respect to the terminals a, b. Use the mesh-current method.
   c) Use an external current source (1.0 A) to find the Thevenin resistor R_{th}. Use the mesh-current method.
   d) Find the Thevenin equivalent circuit with respect to the terminals a, b.
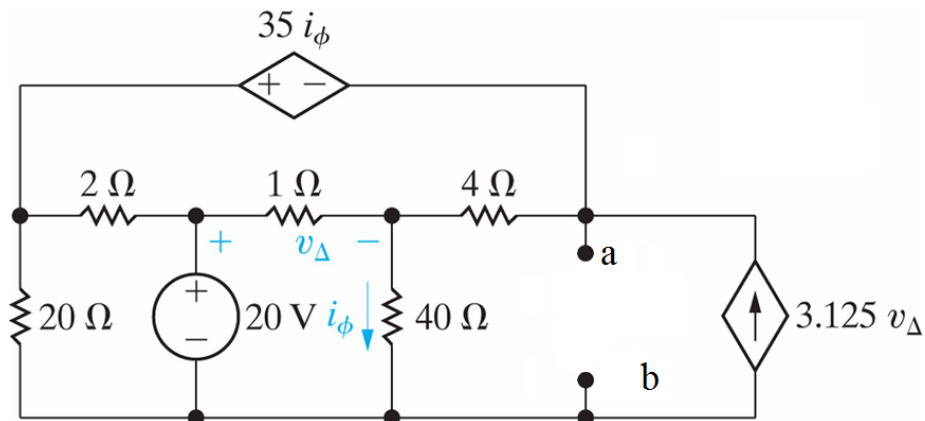   e) Find the Norton equivalent circuit with respect to the terminals a, b.

Figure 4