PRINCIPLES OF EE1

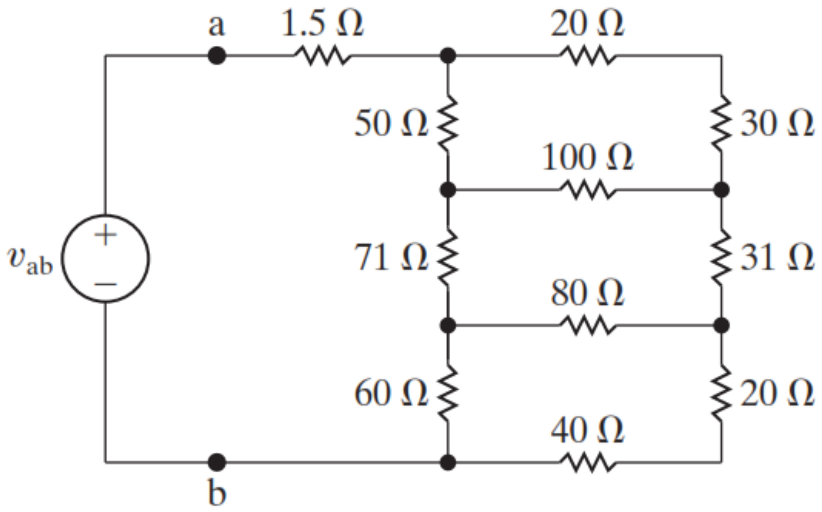
HW

Deadline: 8:00, 13 APRIL 2024

INSTRUCTIONS: Students scan and upload answer into Blackboard

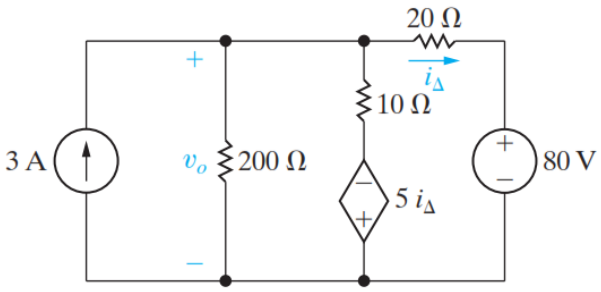
Question 1:

Vab = 100V, using Y - Δ transformation



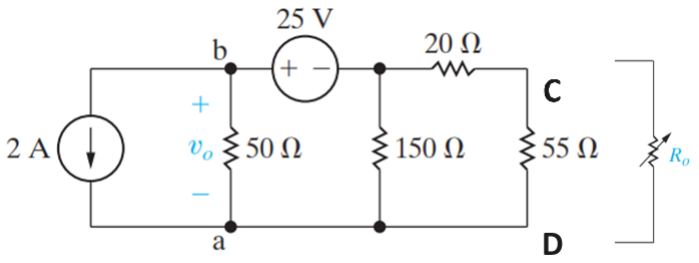
a) Find voltage and power dissipated in resistors
b) Show that the power delivered by source Vab equals to total power dissipated in all resistors

Question 2:



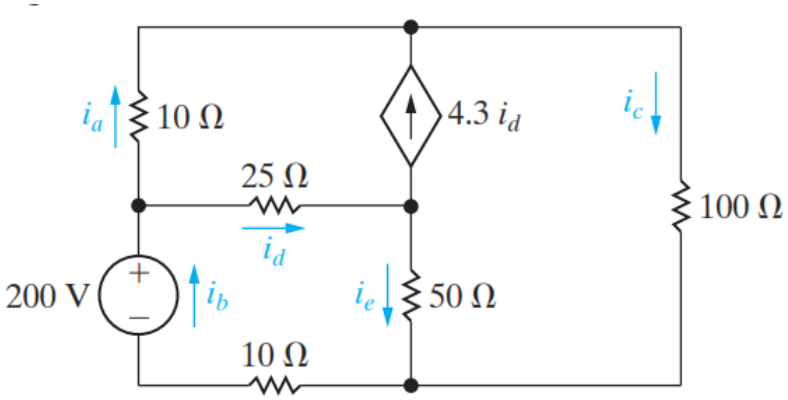
Using superposition method to find v0

Question 3:



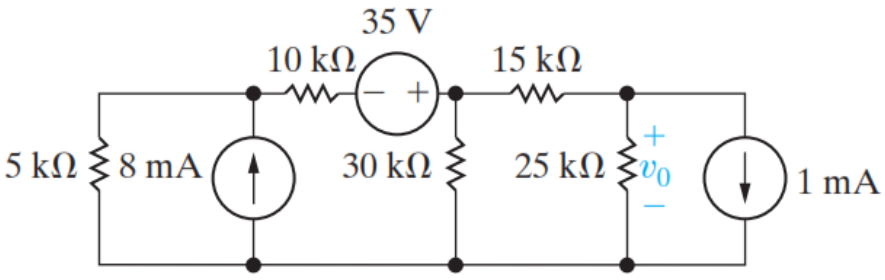
a) Using Node-voltage method to find v0
b) Using Mesh-current method to find the v0
c) Find the Thevenin equivalent with respect to terminals C,D
d) What is the maximum power that can be delivered to the resistor R0?

Question 4:



a) Using Node-voltage method to find power dissipated in resistors
b) Using Mesh-current method to find power dissipated in resistors

Question 5:



a) Make a series of source transformations to find the voltage Vo
b) Using Node-voltage method to find Vo

c) Using Mesh-current method to find Vo