

Name _____ Number _____

Honor pledge signature _____

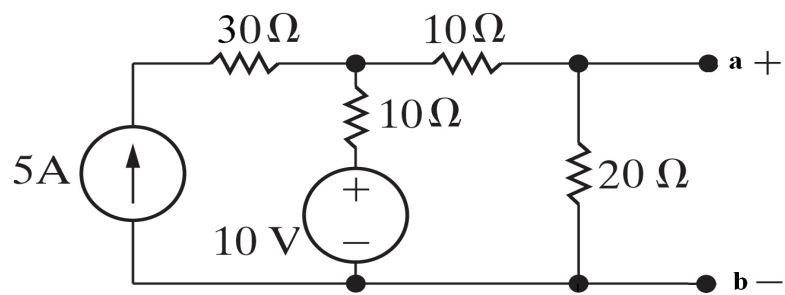
Rules :

- Total time is 90 min (NO extensions!!)
- Show each step of your solution to obtain full credit

Good Luck

Question 1 :

Find the Thevenin equivalent circuit at terminals a – b

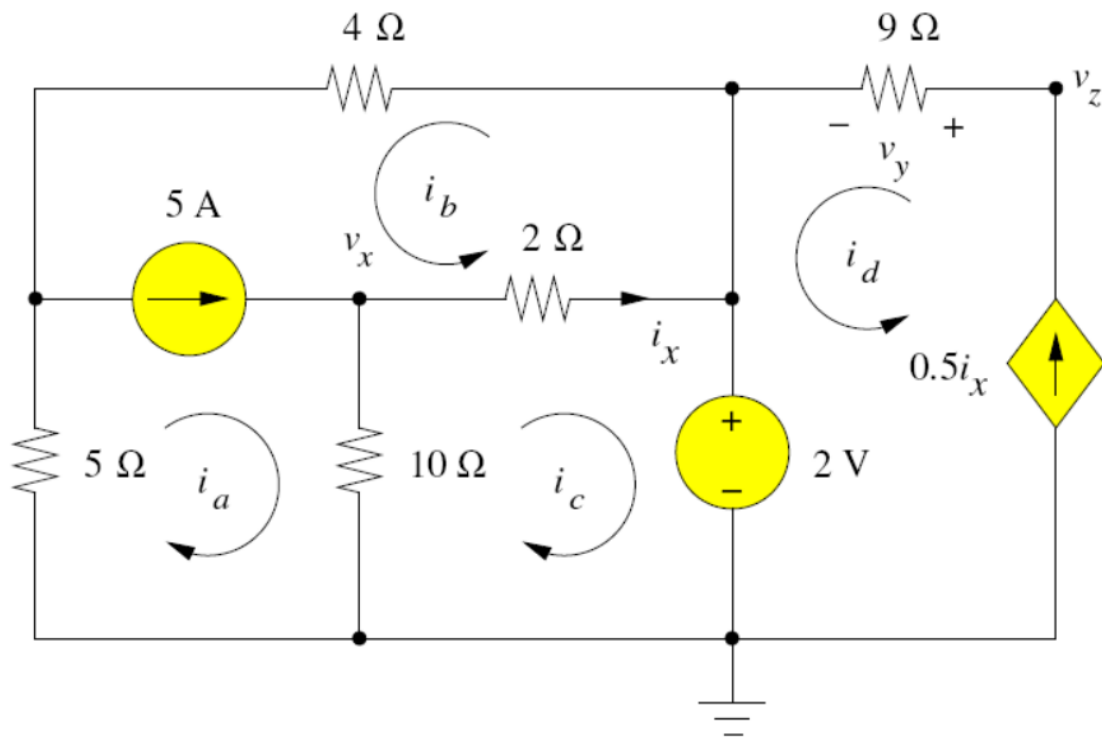


Question 2 :

For the circuit given in the Figure, using mesh-current analysis

i) Find the mesh currents i_a , i_b , i_c and i_d

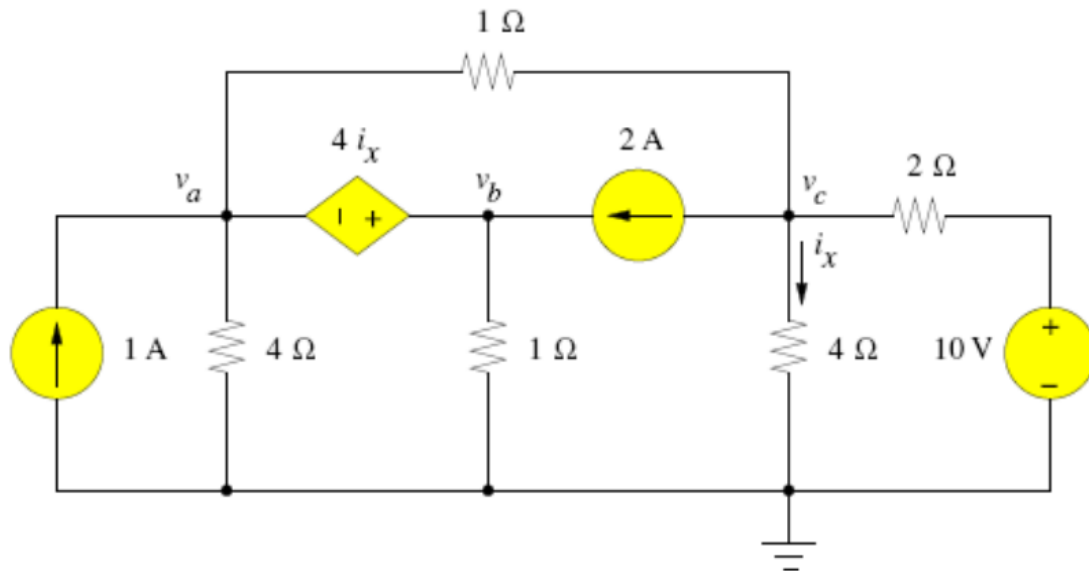
ii) Find v_x , v_y and v_z



Question 3 :

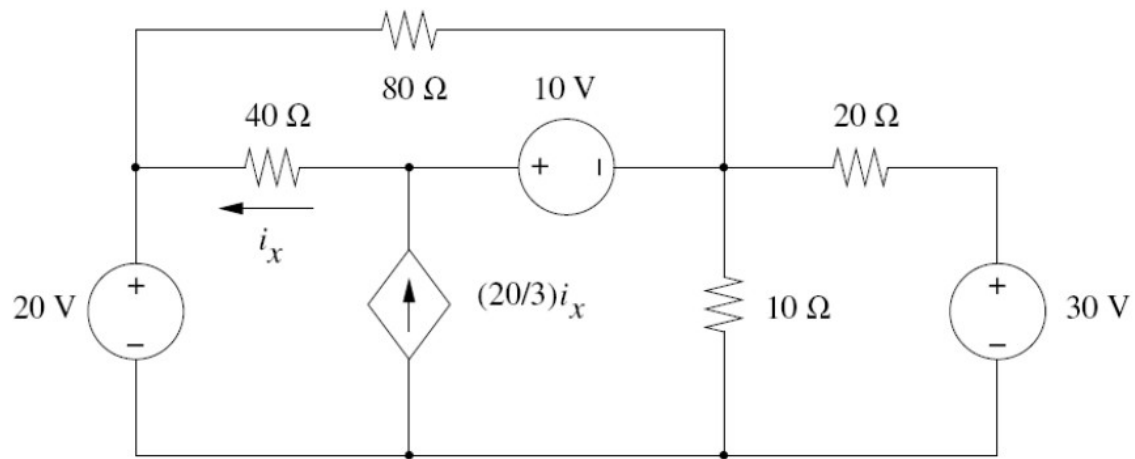
For the circuit given below

- i) Using nodal analysis determine the node voltages v_a , v_b , v_c
- ii) Determine the power in the 2A current source and indicate whether the current source generates or absorbs power.



Question 4 :

For the circuit given below, use the method of your choice to find the power in the dependent current source. Indicate whether this power is generated or absorbed.



Question 5 :

For the circuit given below, the switch labeled as 1 has been closed and the switch labeled as 2 has been open since the day you graduated from high school. At time $t=0$, which magically corresponds to the time you read this question, switch 1 is turned off (it is in open position now) and after 50ms switch 2 is turned on (it is closed at that time). Find the values of the capacitor voltage $v_c(t)$ for each time interval. Calculate the corresponding time constants and find the time when the capacitor voltage drops to zero volts.

