

ECE 300  
Spring Semester, 2007  
Test #1

wlg Test A

Name \_\_\_\_\_  
Print (last, first)

Work the exam on your own engineering paper. Work on one side of your paper only. Attach your work to the back of this exam sheet and staple in the top left hand corner. Each problem 20%.

(1) You are given the circuit of Figure 1. Find the current  $I_A$ .

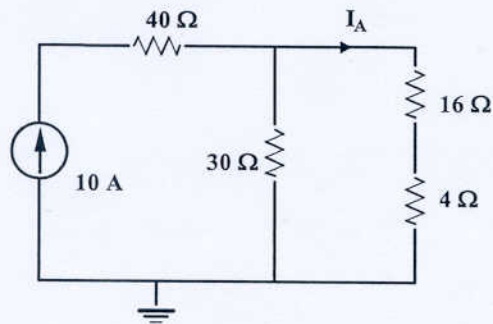


Figure 1: Circuit for problem 1.

(2) You are given the circuit of Figure 2. Find  $V_{10}$ .

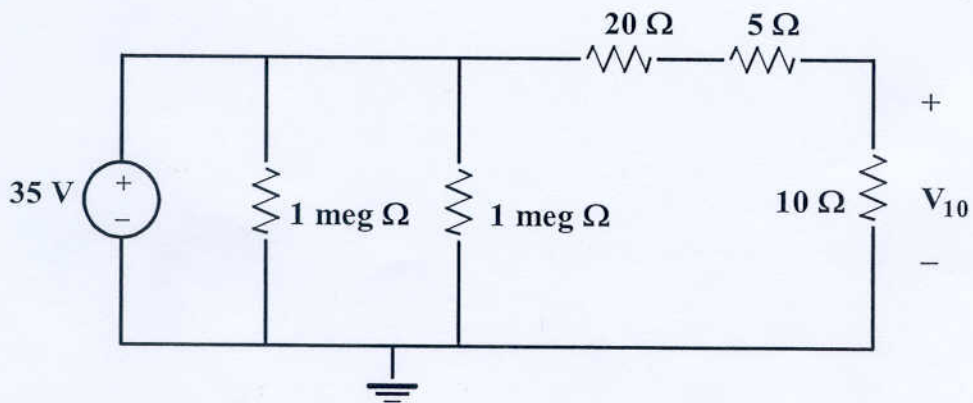


Figure 2: Circuit for problem 2.

- (3) You are given the circuit in Figure 3.  
 (a) Use mesh analysis to find  $i_1$  and  $i_2$ .  
 (b) Find  $V_{ab}$ .

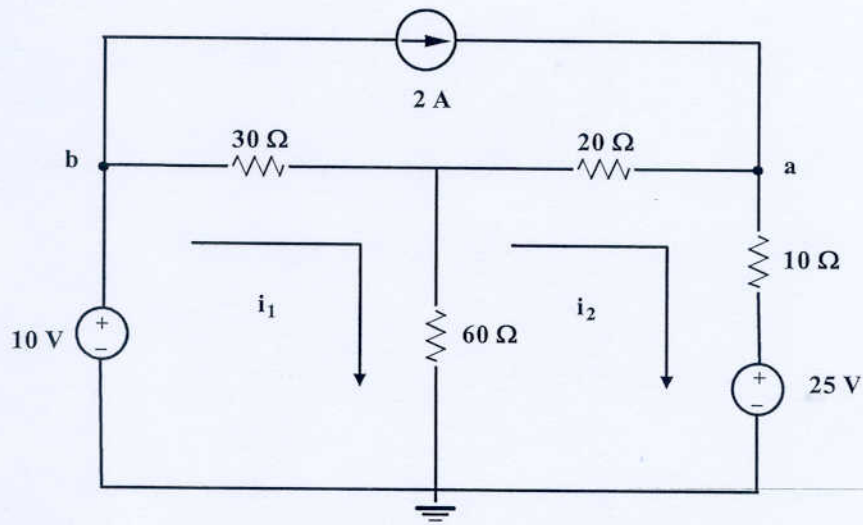


Figure 3: Circuit for problem 3.

- (4) You are given the circuit of Figure 4.  
 (a) Find  $I$  as indicated on the diagram.  
 (b) Find  $V_{ed}$ .  
 (c) Find the power absorbed by the 30 Ω resistor.  
 (d) Find the power supplied by the 20 V source.

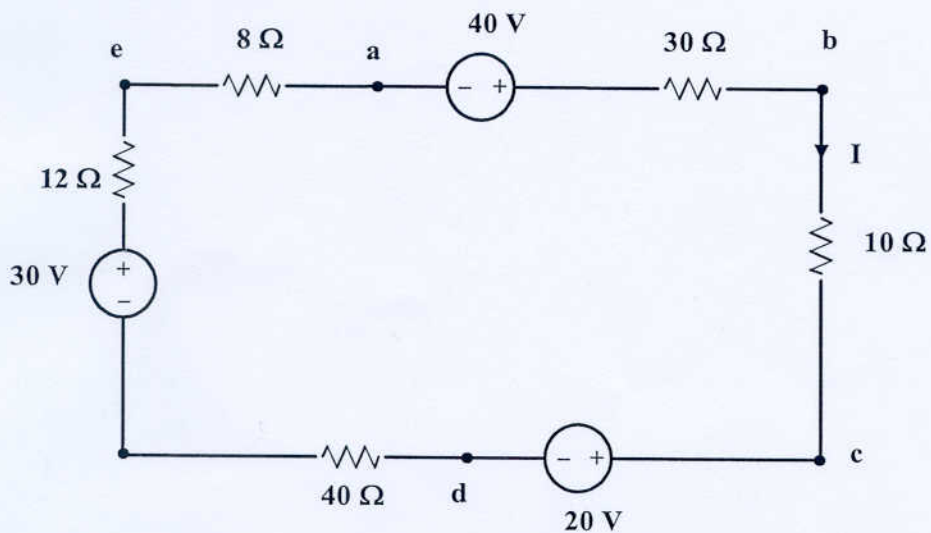


Figure 4: Circuit for problem 4.

(5) Use nodal analysis to find  $V_o$  in the circuit of Figure 5.

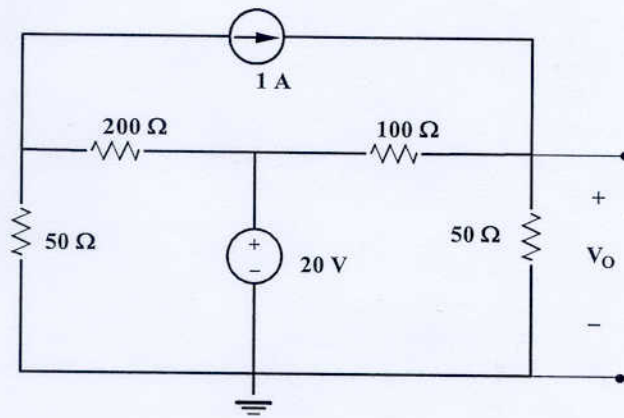


Figure 5: Circuit for problem 5.

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Test #1

wlg Test B

Name \_\_\_\_\_  
Print (last, first)

Work the exam on your own engineering paper. Work on one side of your paper only. Attach your work to the back of this exam sheet and staple in the top left hand corner. Each problem 20%.

- (1) You are given the circuit of Figure 1.
- (a) Find  $I$  as indicated on the diagram.
  - (b) Find  $V_{ed}$ .
  - (c) Find the power absorbed by the  $20\ \Omega$  resistor.
  - (d) Find the power supplied by the  $20\ \text{V}$  source.

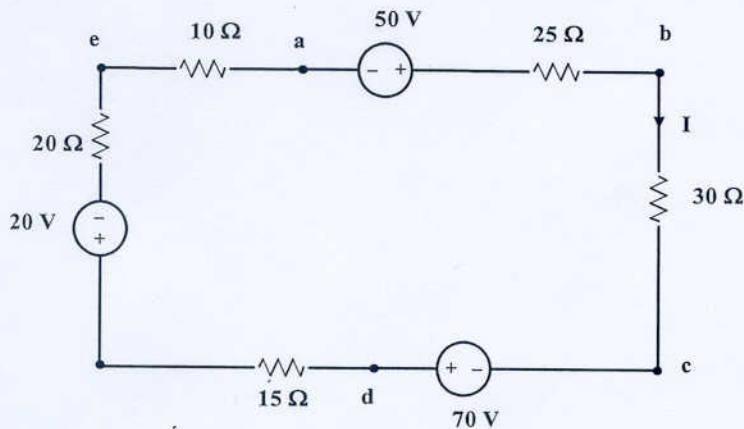


Figure 1: Circuit for problem 1.

- (2) You are given the circuit in Figure 2.
- (a) Use mesh analysis to find  $i_1$  and  $i_2$ .
  - (b) Find  $V_{ab}$ .

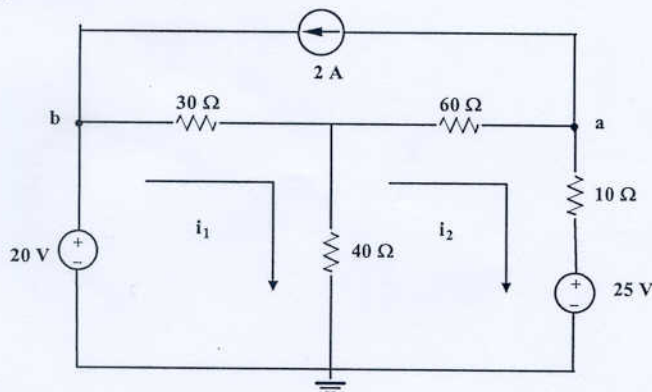


Figure 2: Circuit for problem 2.

(3) You are given the circuit of Figure 3. Find  $V_{10}$ .

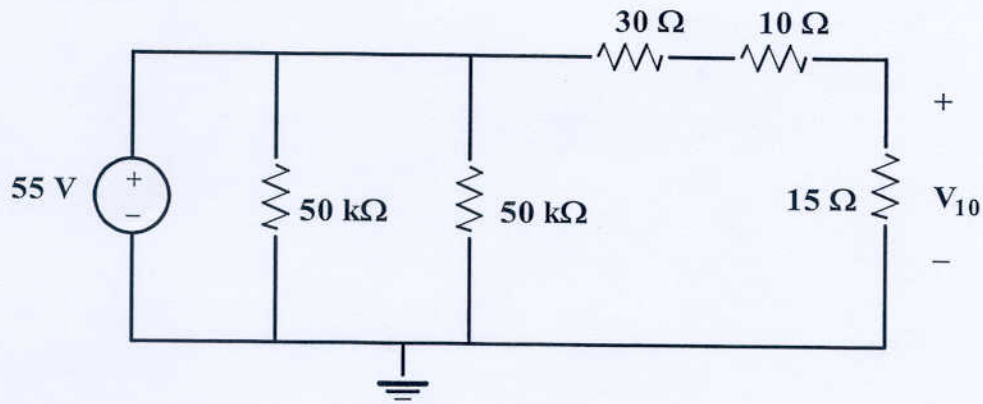


Figure 3: Circuit for problem 3.

(4) Use nodal analysis to find  $V_o$  in the circuit of Figure 4.

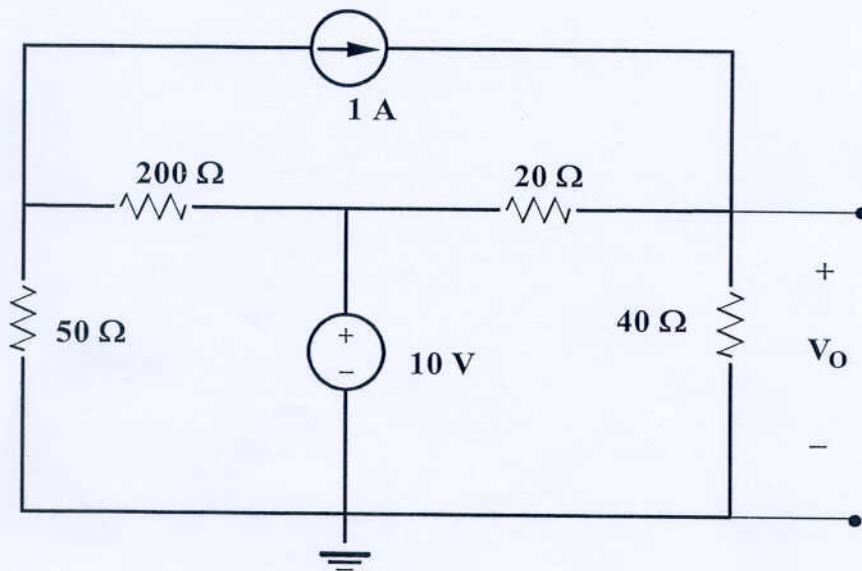


Figure 4: Circuit for problem 4.

(5) You are given the circuit of Figure 5. Find the current  $I_A$ .

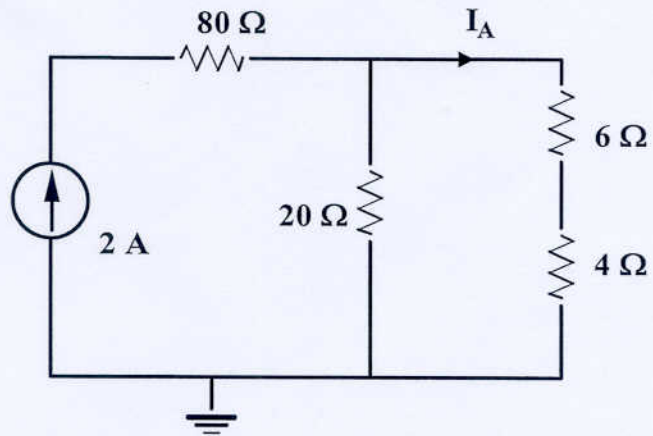


Figure 5: Circuit for problem 5.