

ECE 301
Fall Semester, 2005
Test #1

wlg Version 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. You may omit one problem: either problem 1, or 2. Indicate at the top of the exam cover sheet which problem you omit. Each problem counts 25%.

- (1) Find the voltage for V_o for the circuit given in Figure 1. Use any method.

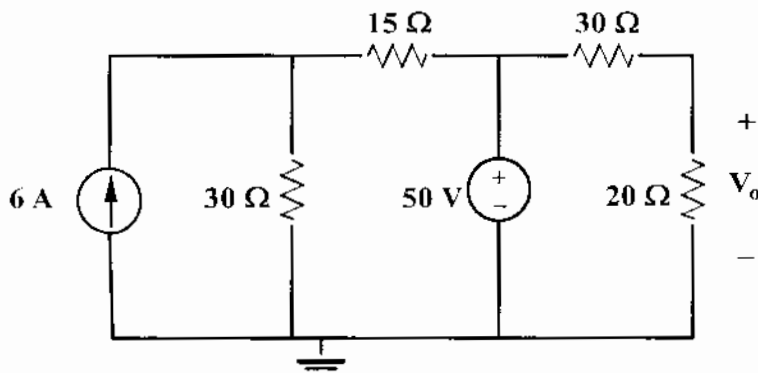


Figure 1: Circuit for problem 1.

- (2) You are given the circuit of Figure 2.
 (a) Find the voltage V_{ab} . Use any method.
 (b) Find the power dissipated in the $10\ \Omega$ resistor.

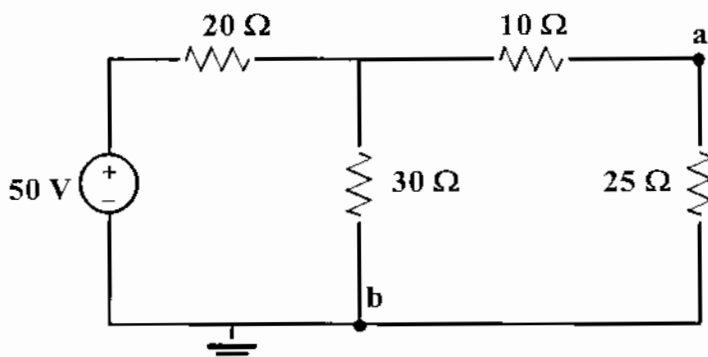


Figure 2: Circuit for problem 2.

(3) You are given the circuit of Figure 3. Use mesh analysis to find I_1 and I_2 .

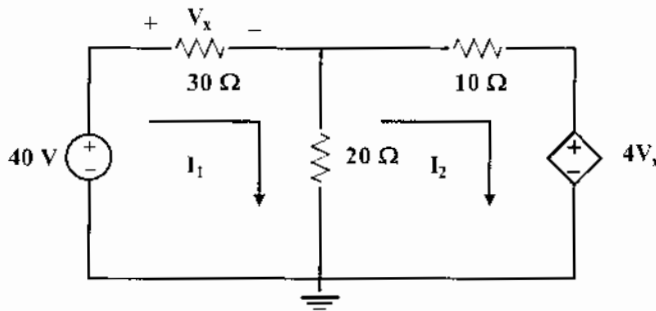


Figure 3: Circuit for problem 3.

- (4) You are given the circuit of Figure 4.
 (a) Use nodal analysis to find V_1 and V_2 .
 (b) Find the current I_o in the $30\ \Omega$ resistor.

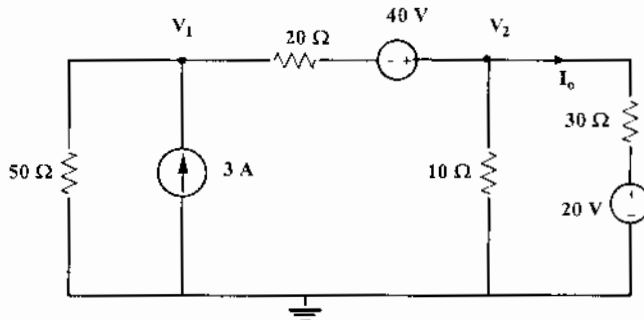


Figure 4: Circuit for problem 4.

- (5) You are given the circuit of Figure 5.
 (a) Find V_{TH} and R_{TH} for the circuit looking into terminals a-b.
 (b) Draw the Thevenin circuit. Show the terminals a-b on your diagram.

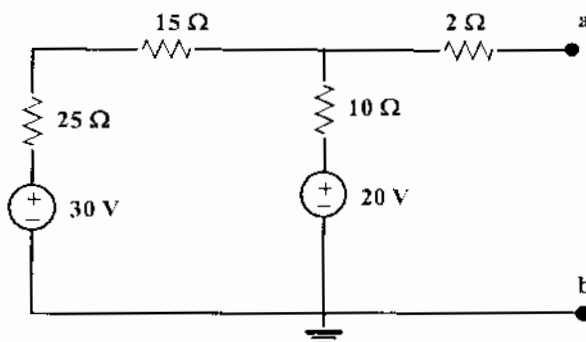


Figure 5: Circuit for problem 5.