

ECE 301
Fall Semester, 2006
Test #1

wlg Version B

Name _____
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 counts 20%.

(1) You are given the circuit of Figure 1. Find the value of E that will make $V_x = 0$ volts.

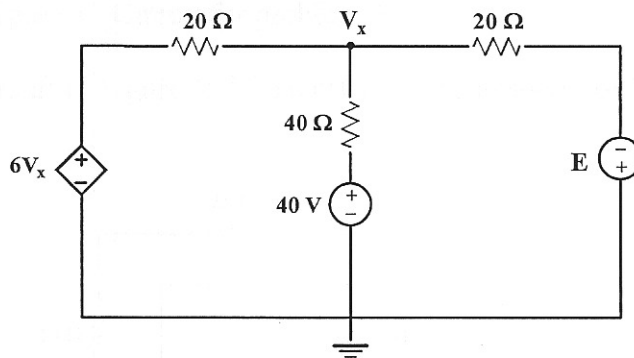


Figure 1: Circuit for problem 1.

(2) You are given the circuit of Figure 2. Solve for R_{eq} , resistance looking into terminals a-b.

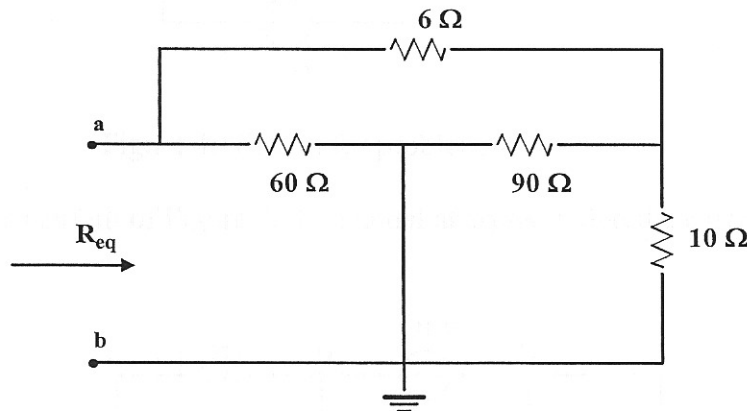


Figure 2: Circuit for problem 2.

- (3) You are given the circuit of Figure 3.
 (a) Find the power supplied by the 40 V source.
 (b) Find the power absorbed by the 25 Ω resistor.

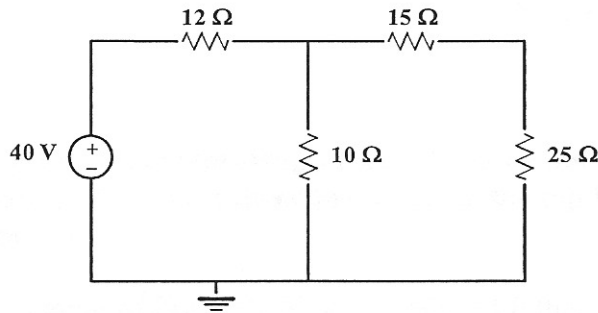


Figure 3: Circuit for problem 3.

- (4) You are given the circuit of Figure 4. Use mesh analysis to solve for I_1 and I_2 .

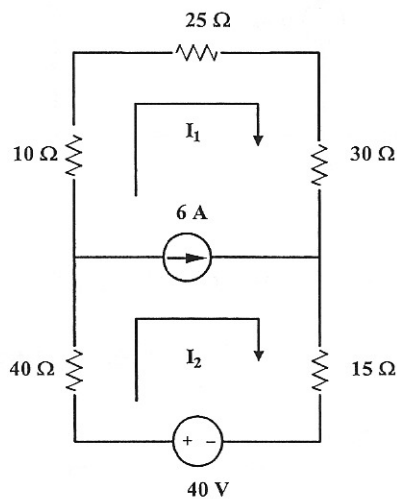


Figure 4: Circuit for problem 4.

- (5) You are given the circuit of Figure 5. Use nodal analysis to find the current I as indicated.

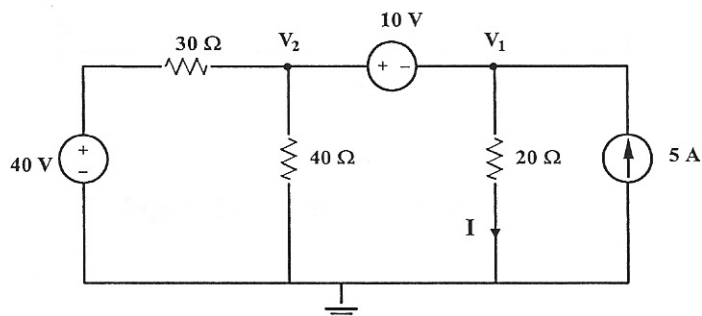


Figure 5: Circuit for problem 5.