

Homework 4
System Properties

Reading: Chapter 4 of Course Notes

Complete the following problems on engineering paper using the problem solving format and submit the assignment at the beginning of class.

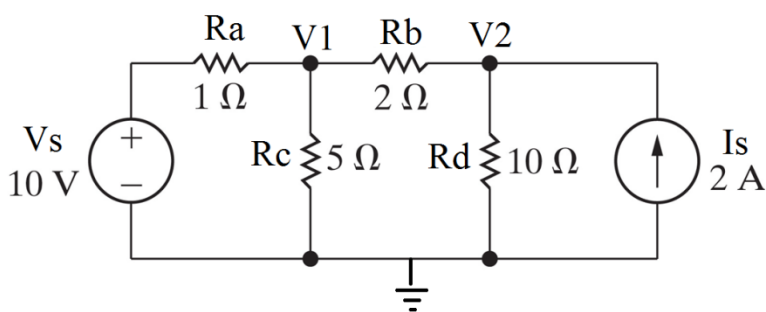
- Chapter 4, Problem 4.1 from the Course Notes

Computer Simulation

As part of your homework submission, you must include the following computer simulations. Include the required computer printouts with a header that includes your name, assignment, problem number and date. Make sure all plots have a descriptive title and axes labeled with units.

Read the Appendix of Chapter 4 from the Course Notes to learn how to use MATLAB to solve a system of simultaneous equations.

- Chapter 4, Problem 4.4 from the Course Notes
- Chapter 4, Problem 4.5 from the Course Notes
- Use MATLAB to demonstrate the principle of superposition (linearity) for the following circuit. Submit the MATLAB script (m-file) and results from the command window for the voltage source on, the current source on and both sources on.



Note that to solve the system of equations you can use any of the following:

$$x = A \backslash b;$$

$$x = \text{inv}(A) * b;$$

rref(C); %where C includes the A and b matrix in the form C = [A,b]

Scrambled answers: 10.909 V, 9.909