

EE 206: Homework #1

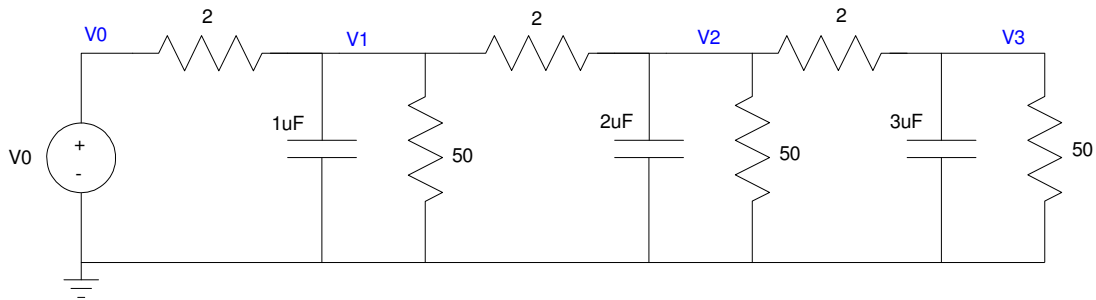
PartSim and Matlab: Due Monday, August 31st

Please make the subject "EE 206 HW#1" if submitting homework electronically to lauren.n.singelmann@ndsu.edu (or on blackboard)

CircuitLab

- 1) For the following circuit, let $V_0 = 10V$. Using CircuitLab, determine the voltages V_1 .. V_3 .
- 2) Assume V_0 is a
 - 200Hz sine wave
 - 10V peak

Determine the voltages $V_1(t)$, $V_2(t)$, and $V_3(t)$ for 20ms



Problem 1 & 2.

Matlab

- 3) Using Matab, solve for V_1 , V_2 , and V_3

$$9V_1 + 1V_2 + 7V_3 = 50$$

$$4V_1 + 4V_2 + 9V_3 = 8$$

$$8V_1 + 9V_2 + 6V_3 = 9$$

- 4) Using Matab, solve for V_1 , V_2 , and V_3

$$(9+j6)V_1 + (1+j3)V_2 + j7V_3 = 50$$

$$(4+j7)V_1 + (4+j6)V_2 + 9V_3 = j8$$

$$(8+j7)V_1 + 9V_2 + (6+j2)V_3 = 9$$

