EE 206: Homework #10

Thevenin Equivalents and Op-Amps with Phasors. Due Monday, November 16th

Please make the subject "EE 206 HW#10" if submitting homework electronically to lauren.n.singelmann@ndsu.edu (or on blackboard)
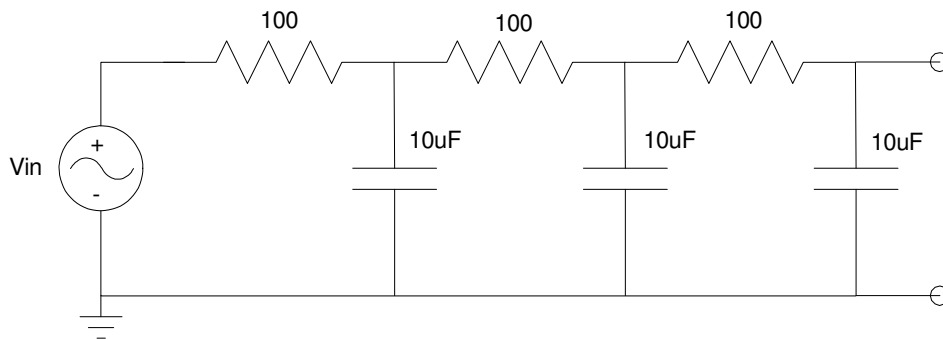
Thevenin Equivalent with Phasors:

Problem 1) Assume

$$V_{in} = 10\sin(100t)$$

Determine the Thevenin equivalent of the following circuit:

Prob lem 2) Determine the load (ZL) which maximizes the power to the load
- What is the maximum power you can get out of this circuit?
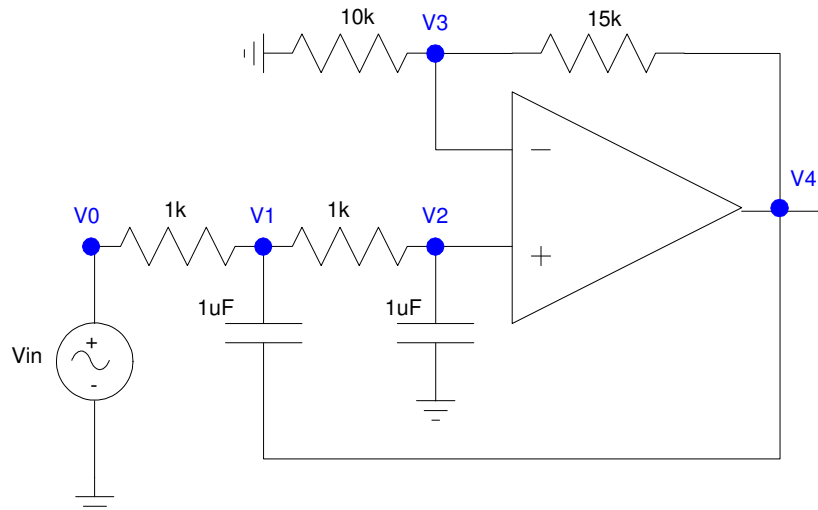

Problem 1 & 2

Op-Amps with Phasors

Problem 3 Assume

$$V_{in} = 10\sin(70t) + 12\cos(70t)$$

Determine V1 .. V4

Problem 4) Simulate this circuit in CircuitLab.
- From a time domain simulation, verify the amplitude of the votlages match (or do not match) your calculations in problem #3

10k V3   15k

V4

−

+

V0   1k   V1   1k   V2

Vin   +
      −

1uF   1uF

Problem 3 - 4