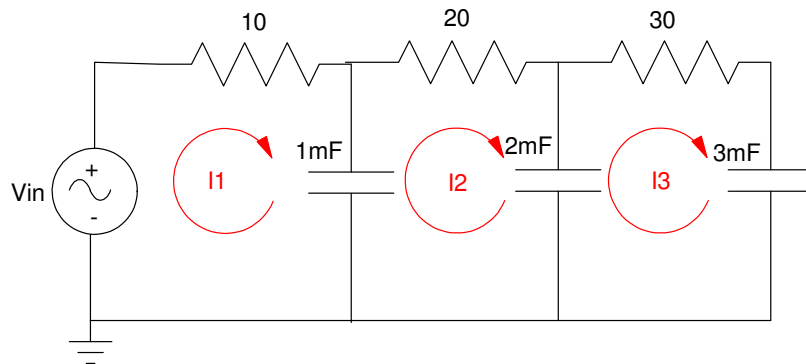


# EE 206: Homework #10

Current Loops, Op-Amps, Superposition with Phasors  
Due Monday, April 8th

Problem 1) Assume

$$V_{in} = 10 \cos(20t)$$

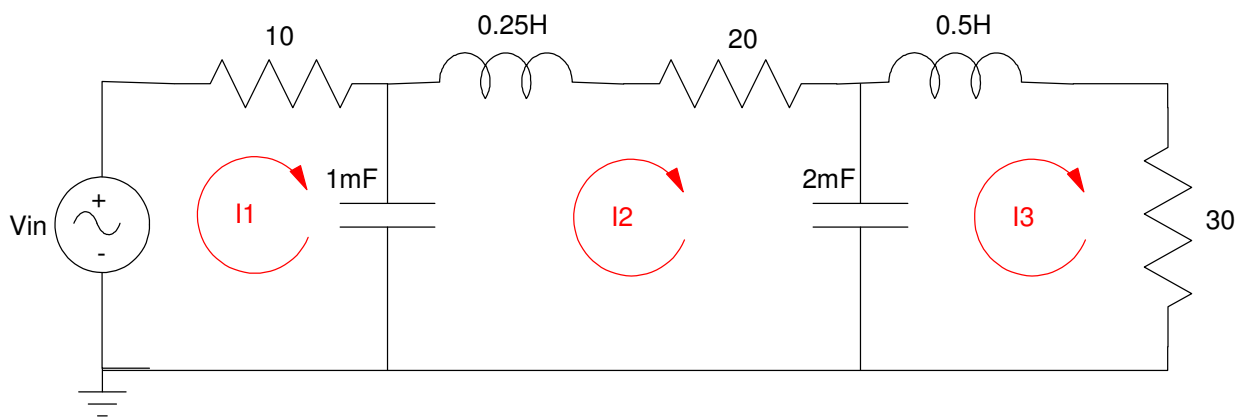


- 1a) Write the current-loop equations for the following circuit.
- 1b) Solve for I1, I2, and I3

Problem 2) Assume

$$V_{in} = 50 \sin(10t)$$

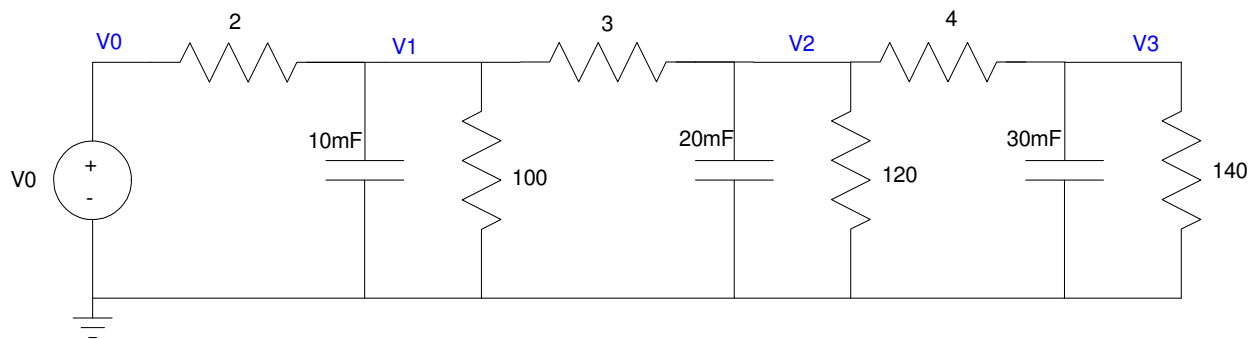
- 2a) Write the current loop equations for the following circuit
- 2b) Solve for I1, I2, and I3



Problem 2

Problem 3) Find  $V_1$ ,  $V_2$ , and  $V_3$  assuming

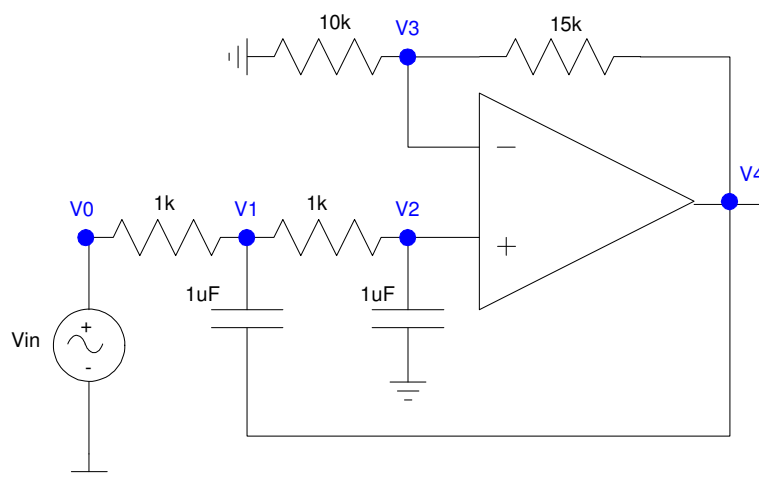
- a)  $V_{in} = 10$
- b)  $V_{in} = 5 \sin(2t)$
- c)  $V_{in} = 10 + 5 \sin(2t)$



Problem #3

Problem 4) Determine  $V_1 \dots V_4$  assuming

- a)  $V_{in} = 10$
- b)  $V_{in} = 10 \sin(300t)$
- c)  $V_{in} = 10 + 10 \sin(300t)$



Problem 4