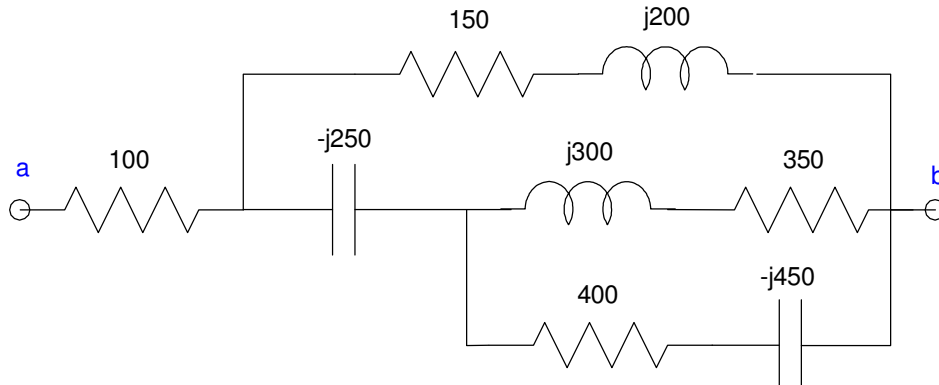


ECE 320 - Homework #1

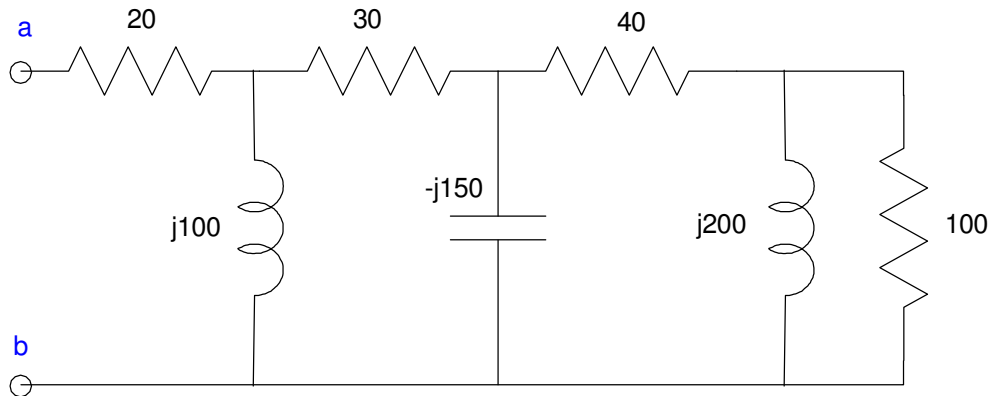
EE 206 Review, Phasors

Resistors in series and parallel

1) Determine the impedance: Z_{ab}



2) Determine the impedance: Z_{ab}



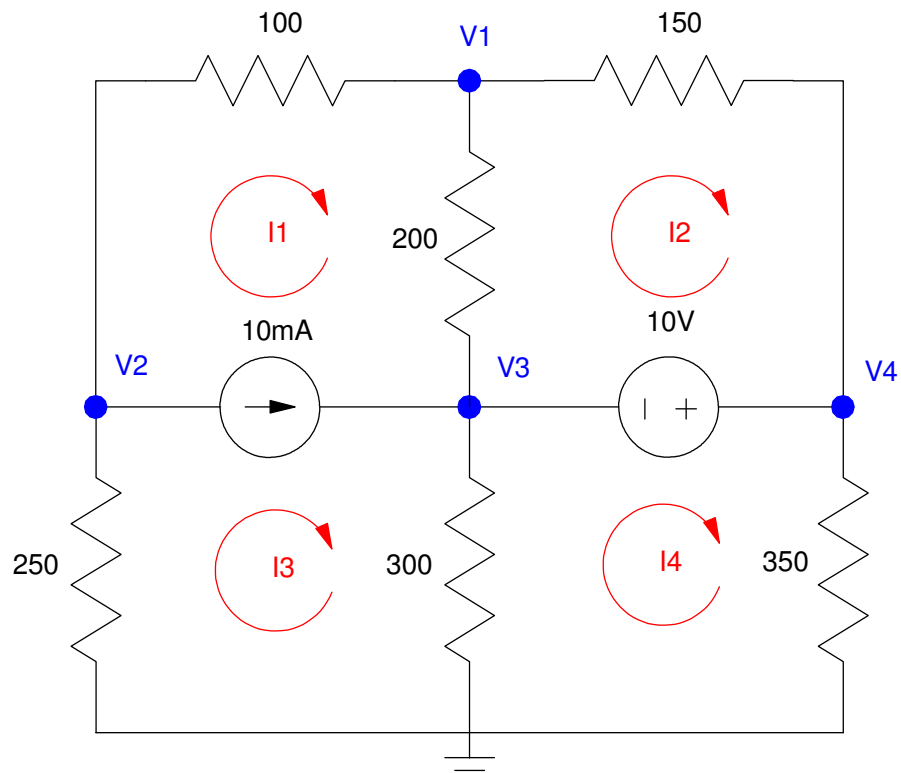
Voltage Nodes & Current Loops

3) (Voltage Nodes): For the following circuit

- a) Write the voltage node equations
- b) Solve using Matlab (or similar program)
- c) Check your answers in CircuitLab (or similar circuit simulator)

4) (Current Loops) For the following circuit

- a) Write the current loop equations
- b) Solve using Matlab (or similar program)
- c) Check your answers in CircuitLab (or similar circuit simulator)



Problem 3 & 4

5) Assume V_{in} contains a DC and AC signal:

$$V_0 = 10 + 5 \sin(200t)$$

- a) Determine the voltage, V_1 , using phasor analysis
- b) Check your answer using CircuitLab (or similar program)

