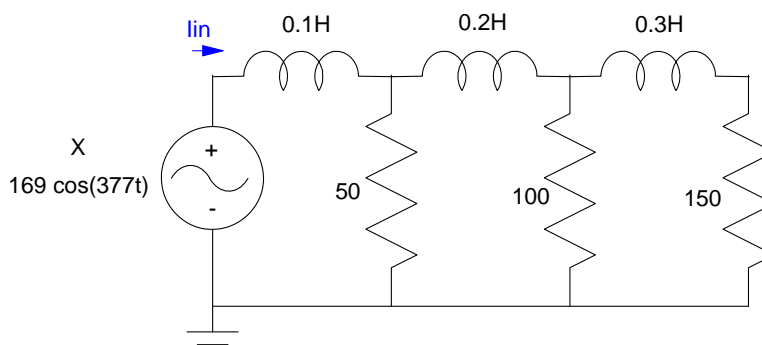


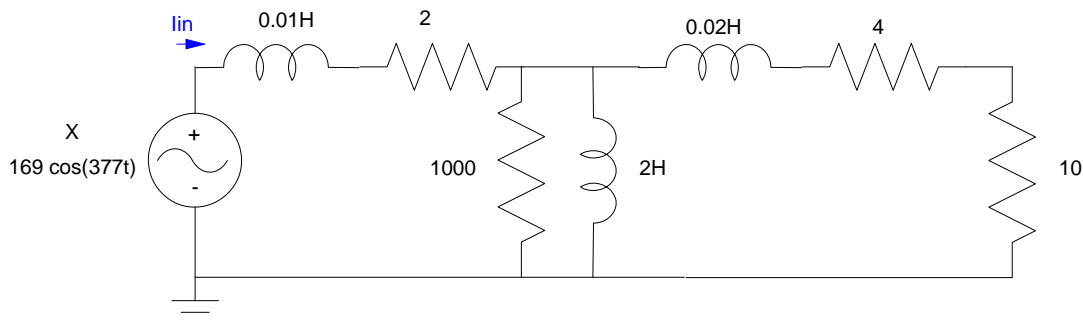
# ECE 331 - Homework #2

Phasors, RL Circuits, Power Factor - Due Monday, Jan 27th

- 1a) Determine the current,  $I_{in}$ :
- 1b) Determine the power factor:
- 1c) Determine the power consumed by this circuit



- 2a) Determine the current,  $I_{in}$ :
- 2b) Determine the power factor:
- 2c) Determine the power consumed by this circuit



3) The following data is measured for a RL circuit:

- $V_{in} = 120$  V rms
- $I_{in} = 35$  A rms
- $P_{in} = 3000$  Watts
- $f = 60$  Hz (377 rad/sec)

Determine the impedance and power factor.

4) Determine an RL series and RL parallel circuit to implement the impedance for problem #3 (at 60Hz):