KING FAHD UNIVERSITY OF PETROLEUM & MINERALS

ELECTRICAL ENGINEERING DEPARTMENT

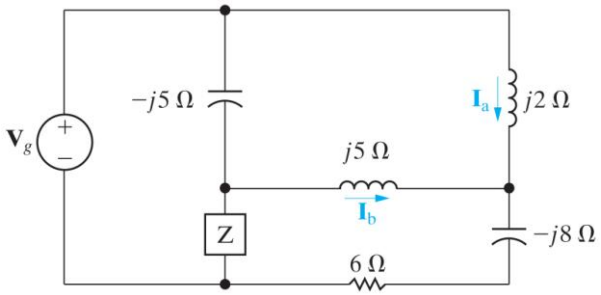
EE 202
Homework #7, Ch.9

DUE DATE: Wednesday 26th, 2012

ID#	
Name	
Section#	

Problem #1

Find $\mathbf{I_b}$ and $\mathbf{Z}$ in the circuit shown, $\mathbf{V}_g = 60\angle 0^0$ V and $\mathbf{I}_a = 5\angle -90^0$ A



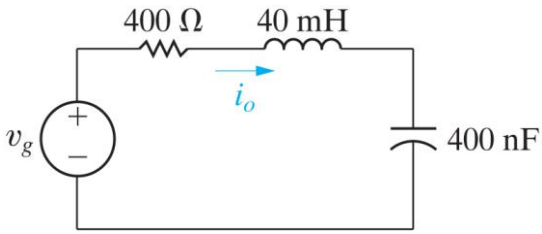
Problem #2

The circuit shown is operating in the sinusoidal steady state. Find the value of ω if

$i_0 = 100\sin(\omega t + 81.87^0)\ \ mA$

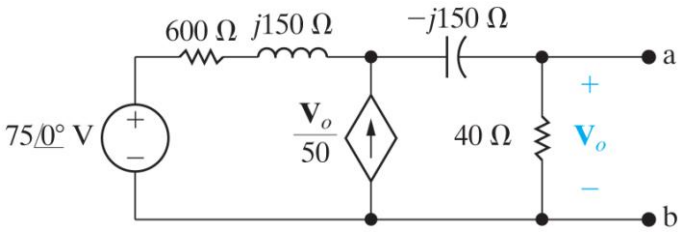
$v_g = 50\cos(\omega t - 45^0)\ \ V$

What is the phase difference between the voltage and current, take the voltage as reference.



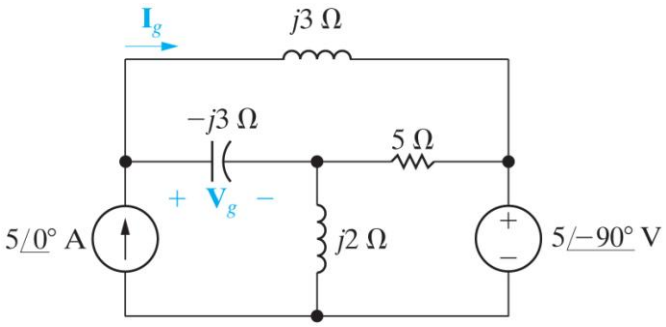
Problem #3

Find the Norton equivalent circuit with respect to the terminals a, b of the circuit shown below:



Problem #4

A) Use the node-voltage method to find the phasor voltage $\mathbf{V_g}$ in the circuit shown below:



B) Use Mesh Analysis method to find the phasor $\mathbf{I_g}$.