

Aula 15 - Exercise Class 5

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Contents

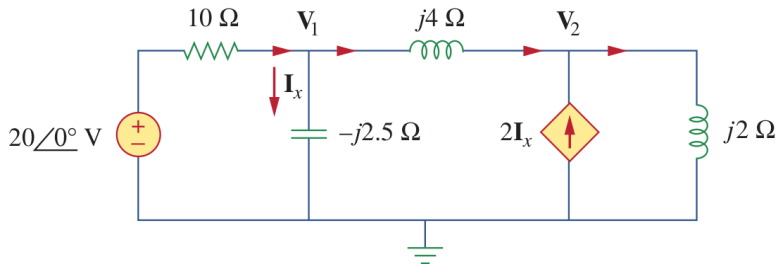
CHAPTER 7 Sinusoidal Steady-State Analysis

Diode

Introduction to Electric Circuits by James A. Svoboda, Richard C. Dorf, 9th Edition

Nodal Analysis

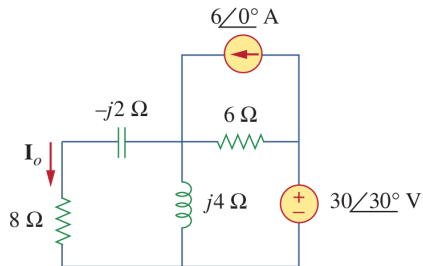
Example 10.1 - Find i_x in the circuit below using nodal analysis.



Answer: $7.59 \cos(4t + 108.4^\circ)$.

Mesh Analysis

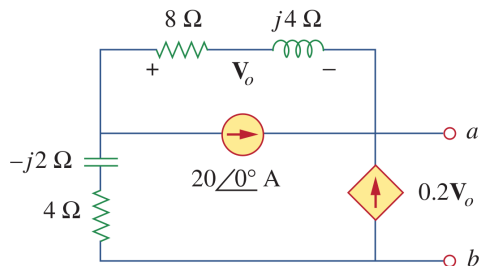
Practice Problem 10.3 - Find I_o in Fig. below using mesh analysis.



Answer: $I_o = 3.582 \angle 65.45^\circ$.

Thevenin Equivalent Circuits

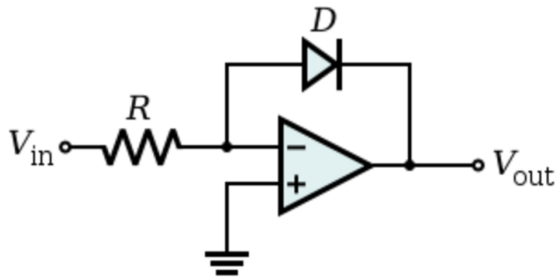
Practice Problem 10.9 - Determine the Thevenin equivalent of the circuit in Fig. below as seen from the terminals a-b.



Answer: $\mathbf{Z}_{Th} = 4.473 \angle -7.64^\circ$, $\mathbf{V}_{Th} = 29.4 \angle 72.9^\circ$.

Log Amplifier

Example - Find the response v_{out} in the circuit of Fig. below.



Answer: $v_{out} = -nv_t \ln\left(\frac{v_{in}}{I_S R}\right)$