

Homework Assignment #8

Reading Assignment:

Ch. 8 in Electric Circuits, 8th Edition by Nilsson

Problem Assignment:

- 1) Chapter 8 problems: 3, 4, 6, 30, 35, 38, 40, 44, 51
- 2) Graph the following responses using MathCAD, MatLab, or Excel and turn in printouts of each graph. Include a title that identifies the problem number and indicates whether the graph is overdamped, underdamped, or critically damped. Graph each response from 0 to 5 τ and use good rules for graphing, including a sufficient number of points so that each graph is smooth.
 - A) $i(t) = 20e^{-100t} + 30e^{-500t}$ A, $t \geq 0$
 - B) $i(t) = 20e^{-5,000t} - 30e^{-20,000t}$ A, $t \geq 0$
 - C) $i(t) = (20,000t+2)e^{-400t}$ A, $t \geq 0$
 - D) $i(t) = e^{-10,000t}[30\cos(4000t) + 40\cos(4000t)]$ A, $t \geq 0$
 - E) $i(t) = e^{-2,500t}[30\cos(4000t) + 40\cos(4000t)]$ A, $t \geq 0$
 - F) $i(t) = e^{-500t}[30\cos(4000t) + 40\cos(4000t)]$ A, $t \geq 0$