ECE 343 - Homework #0

Introduction - Summer 2018

Determine what type of analysis is used to analyze the following systems

- Phasors
- Fourier Transform
- LaPlace Transform
- z-Transform

Assume x and y are related by

$$\frac{d^2y}{dt^2} + 8\frac{dy}{dt} + 3y = 2\frac{dx}{dt} + 4x$$

1) $x(t) = \begin{cases} 0 & t < 0 \\ 2t & t > 0 \end{cases}$

2) $x(t) = 2 + 3\cos(4t)$

3) $x(t) = (2 + 3\cos(4t))u(t)$

4) $x(t) = 2 + 3|\cos(4t)|$ *absolute value*

5) $x(t) = \begin{cases} 4t(3-t) & 0 < t < 3 \\ 0 & otherwise \end{cases}$

6) x(t) =

7) x(t) for $-\infty < t < \infty$

8) x(t) turns on at t=2