EE 2111

Book Reference: Signals and Systems by M. J. Roberts

Homework # 1 due on Monday, Feb 10, 2020

Following problems (#1 to #3) from Chapter 2 of the book:

1) 26

2) 27

3) 28

4) Plot the following signals

   a) 5Cos(20πt)
   b) 5Cos(20πt) + 3Cos(40πt)
   c) 5Cos(20πt) + 3Cos(40πt) + Cos(60πt)

5) What is the frequency, phase and amplitude of the following sinusoidal signal given in complex form.

   a) $x(t) = 10e^{j200\pi t + j\pi} + 10e^{-j200\pi t - j\pi}$
   b) $x(t) = 2.5e^{j10\pi t - j\pi/4} + 2.5e^{-j10\pi t + j\pi/4}$
   c) $x(t) = 2e^{j5\pi t} + 2e^{-j5\pi t}$

6) Write a sinusoidal signal with frequency 20 Hz, amplitude 1 volts, and phase of pi/4 in all three forms (compact trigonometric, trigonometric, and complex exponential).