

1. Plot delta function, delayed delta function, unit step function, and ramp function. Decide the limits of the x-axis and y-axis on your own.
2. Plot a sine wave function with t ranging from 0 to 10pi. Subplot a sine wave function corrupted with 10% random noise.
3. Let  $x(n) = \{1, -2, 4, 6, -5, 8, 10\}$ . With  $x(0) = -5$ . Generate and plot the samples (use the stem function) of the following sequences.

$$x_1(n) = 3x(n + 2) + x(n - 4) + 2x(n)$$

$$x_2(n) = 5x(5 + n) + 4x(n + 4) + 3x(n)$$

$$x_3(n) = 2e^{0.5n}x(n) + \cos(0.1\pi n)x(n + 2)$$

(Match your answers/plots with the ones given below)

