

ECE113, Winter 2023

Digital Signal Processing

University of California, Los Angeles; Department of ECE

Quiz #1

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Monday, 9 Jan 2023

10 points total.

Name: _____

UID: _____

1. (10 points) Consider the following sequences:

$$x[n] = \{2, 0, 2, 3, 1, 0, 9\}, -3 \leq n \leq 3,$$

The sample values of each of the above sequences outside the ranges specified are all zeros. Write out and plot $y[n] = x[\frac{1}{2}(n+3)]$.

Solutions:

Hint: Do left shifting first and then upsampling.

$$y[n] = \{2, 0, 0, 0, 2, 0, 3, 0, 1, 0, 0, 0, 9\}, -9 \leq n \leq 3,$$

