

Quiz #4 EE 360 Fall 2021

Name: _____

Attempt and grade yourself with a pen

Show your work for credit and place boxes around your answers.

1. Define (in written English):

- a transformation

2. Draw a transposed Direct Form II block diagram for the following system described by:

$$3y[n] - \frac{3}{2}y[n-1] = 6x[n] - 9x[n-2]$$

Determine state equations in the form:

$$\begin{aligned}\mathbf{q}[n+1] &= \mathbf{A}\mathbf{q}[n] + \mathbf{B}\mathbf{x}[n] \\ \mathbf{y}[n] &= \mathbf{C}\mathbf{q}[n] + \mathbf{D}\mathbf{x}[n]\end{aligned}$$

Represent your answers in matrix form.