ECE 310: Quiz #1 (6pm Section CSS) Fall 2018

UIN: _____

Name: _____   **Score:** _____

1. (6 pts)

   (a) Derive close-form expressions for the magnitude and phase of the function $G(\omega) = (-j+je^{j2\omega})e^{\omega}$ of the real variable ω.

   (b) Sketch the phase over the interval $-\pi \leq \omega \leq \pi$. Label the axes in your plot, and mark values at the "interesting points."

2. (4 pts) Draw a block diagram of a system with input $x[n]$ and output $y[n]$, defined by
   $$y[n] = 3y[n-2] - 2y[n-1] - 0.5x[n]$$