**EEL 3135: Signals and Systems**

**Practice test Fall 2018**

Solve either problem 2 or problem 3 but do not solve both. Test duration: 1hour and 15 minutes.

**Problem 1:**

Let y(t)= r(t+2)-r(t+1)+r(t)-r(t-1)-u(t-1)-r(t-2)+r(t-3), where r(t) is the ramp function.

1. plot y(t)
2. plot y’(t)
3. Plot y(2t-3)
4. calculate the energy of y(t)

note:

**Problem 2:**

Let x(t) = u(t)-u(t-2) and y(t) = t[u(t)-u(t-1)]

1. plot x(t) and y(t)
2. evaluate graphically and plot

**Problem 3:**

An LTI system has the impulse response

The input is Compute the output .

Notice that (t) +.

**Problem 4:**

Find all the complex numbers z such that



Give your answer in rectangular form