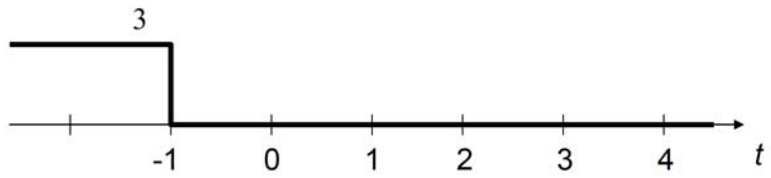
Name:_____

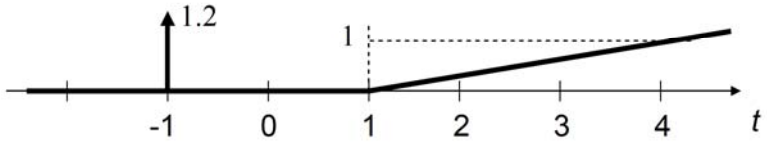
EE322 Fall 2008 Exam I Worksheet

1. Write the equation for the following functions in terms of the basic continuous time functions:

(a)

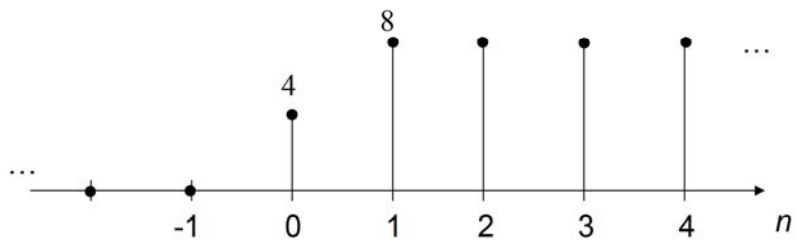


(b)



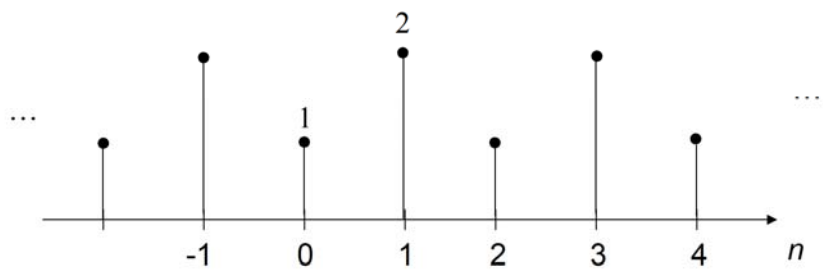
Use ramp functions only to answer part (c).

(c)

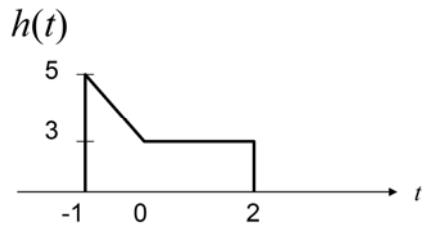


Use periodic impulse functions only to answer part (d).

(d)



2. Given $h(t)$ shown to the right, plot $2h\left(-\frac{t}{2}+4\right)$.



3. Compute the energy and the power of the following signals, and then determine if they are energy or power signals.

a. $x[n] = 2 \cdot rect_5[n]$

b. $w(t) = -2 \cdot \sin\left(2\pi 2115t + \pi/3\right)$

4. Given a discrete signal described by $x[n] = 2\delta[n+3] - \delta[n+1] + 5\delta[n] + 2\delta[n-4] + 2\delta[n-5]$.

a. Sketch x[2n+2].

b. Sketch x[n/3].

5. Find the energy and power in the signal $z[n] = 4u[n+3] - 4u[n-2]$. Is this an energy signal or a power signal?

6. Find the fundamental period of $y[n] = 3\sin(0.2\pi n) - 50\cos\left(\frac{7\pi n}{6}\right)$.

7. Find and sketch the even and odd parts of $z(t) = 50u(t+1)$