Name: Solution

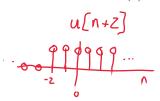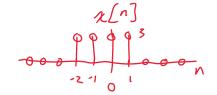| Homework Score	/ 5
Quiz Score	/ 5
Total	/ 10

1. (3 pts) Consider the discete-time signal

$$x[n] = 3u[n+2]u[1-n]$$

(a) Make an accurate sketch of $x[n]$.

(b) Find the signal energy, E_x, of $x[n]$.

$$E_x = \sum_{n=-\infty}^{\infty} |x[n]|^2 = \sum_{n=-2}^{1} |3|^2 = 4(9) = 36$$

(c) Find the signal power, P_x, of $x[n]$.

$$P_x = 0 \quad \text{since } E_x \text{ is finite}$$

2. (2 pts) Consider the signal

$$y[n] = 4\cos(0.8\pi n + 0.15)$$

Find the fundamental period of $y[n]$.

$$N_0 = k\frac{2\pi}{\Omega} = k\frac{2\pi}{0.8\pi}$$

$$= k\frac{2}{0.8}$$

$$= k\frac{20}{8}$$

$$= k\frac{5}{2}$$

choose $k=2$ $\Rightarrow$ $N_0 = 5$