King Fahd University of Petroleum & Minerals
Electrical Engineering Department
EE370: Communications Engineering I (102)
Quiz 1: Introduction and Review of Signals

Serial #

-1 point for no number

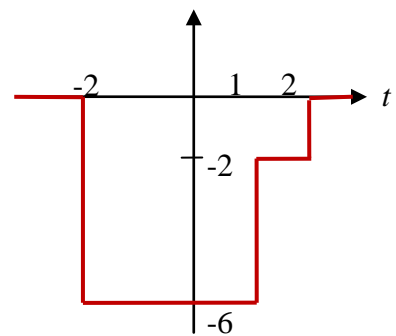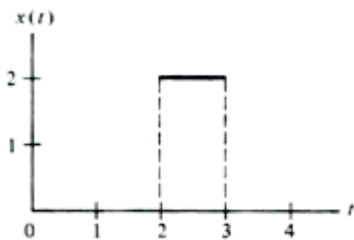Name: Key   Ver.2

Mention four advantages for digital communication over analog communication?

1) Easier to encrypt
2) Can use repeaters
3) Data compression technique can be easily used
4) Can do error control coding…… Also easier to manufacture and design (in general)…..etc

Given the following signal $x(t)$. Sketch $2x(t+1)-3x(1-2t)$

Sketch the double sided spectra of the following signal
$$g(t) = 2 + 3\cos\left(2t + \frac{\pi}{4}\right) + \sin\left(4t - \frac{\pi}{4}\right)$$

$$g(t) = 2 + 3\cos\left(2t + \frac{\pi}{4}\right) + \cos\left(4t - \frac{\pi}{4} - \frac{\pi}{2}\right)$$

Convert sine to cosine and then proceed with the two sketches
You must indicate the x-axis (n, f, or ω) and the important point.
It is ω the deltas will be at 0, 2, and 4 and it is n the deltas will be at 0, 1, and 2 (assumed $\omega_0=2$)

What is power of the signal, $g(t)$? $2^2+3^2/2+1^2/2=9$

Good Luck   Dr. Ali Muqaibel