## Zewail City for Science and Technology Nanotechnology Engineering Program Tutorial Quiz 1

NANENG 461 Communication Theory and Systems Spring 2020

1. Given the following signal:

$$x(t) = \begin{cases} 2t & 0 \le t \le 2\\ -2t + 8 & 2 < t \le 4\\ 0 & otherwise \end{cases}$$

Sketch the following signals

a) 
$$x_1(t) = even\{x(t-4)\}$$

b) 
$$x_2(t) = odd\{x(t+2)u(t)\}$$

## Problem 2

Determine for the following signals whether (Periodic or Aperiodic)

$$x[n] = \left(\frac{1}{2}\right)^{2n} u[n]$$

$$x[n] = e^{j[\frac{\pi}{2}n - \frac{\pi}{8}]}$$