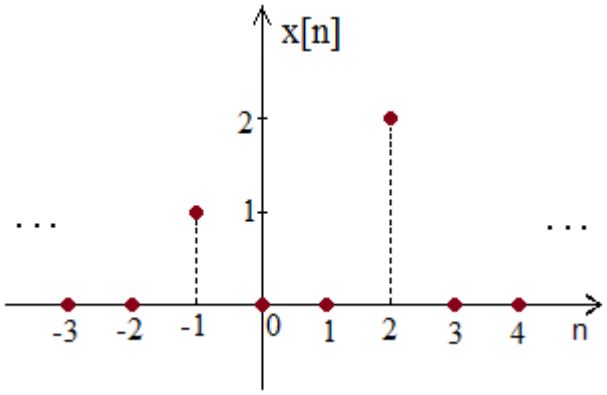
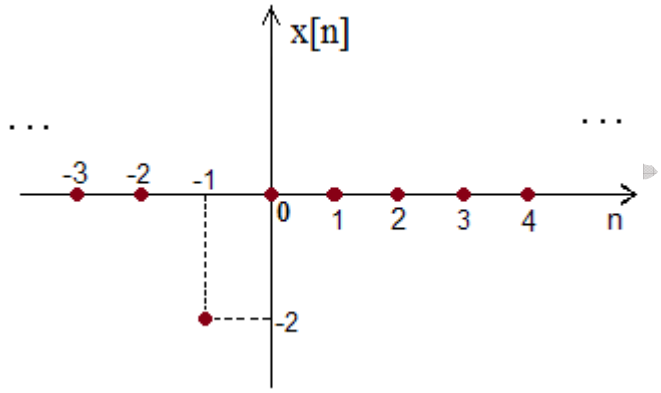
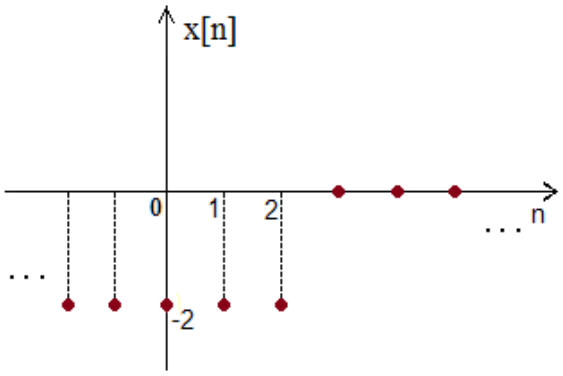
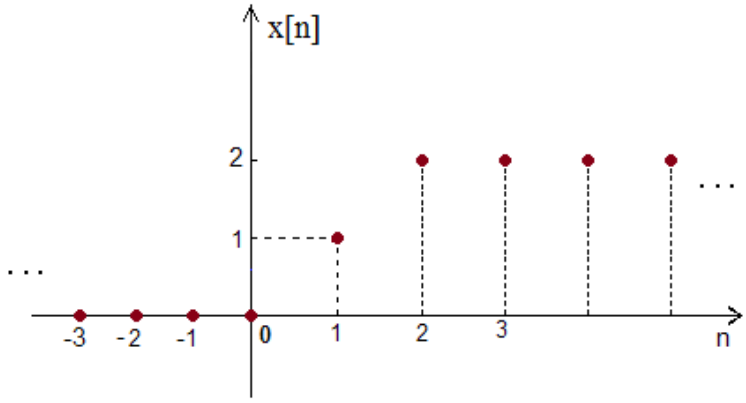
Análise de Sinais – Homework 03
(Sinais Singulares)

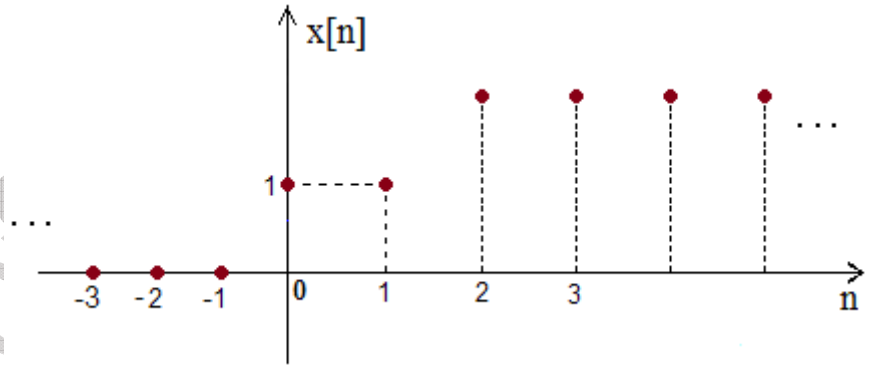
1) – Escreva os **sinais discretos** x[n] abaixo em mais de uma forma diferente como a combinação linear de **funções singulares** [*impulso* $u_o[n]$, *degrau* $u_1[n]$ e *rampa* $u_2[n]$].

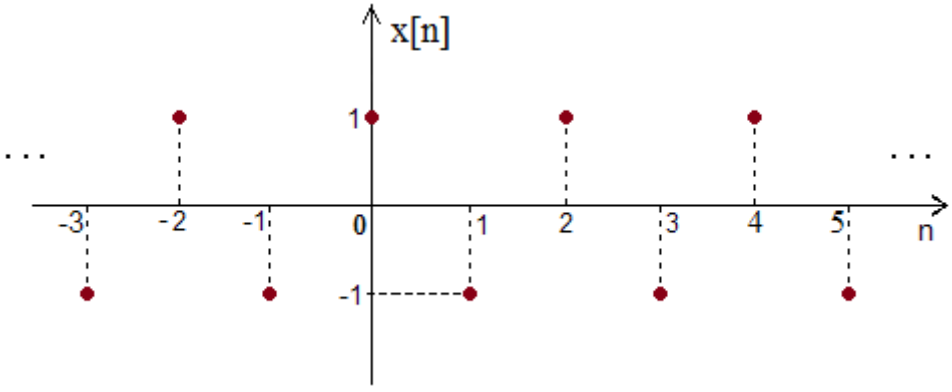






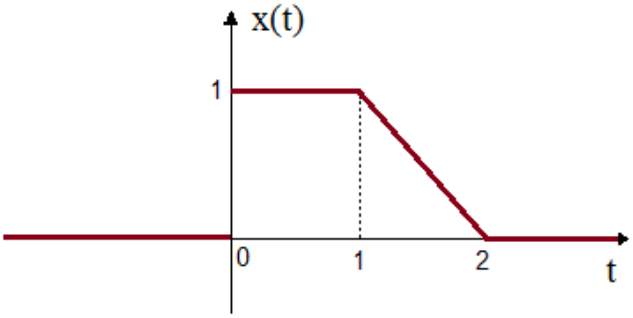


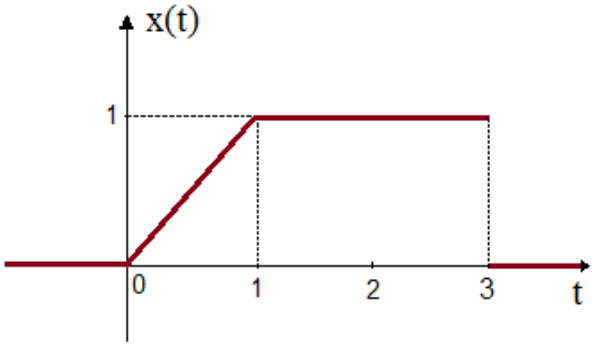


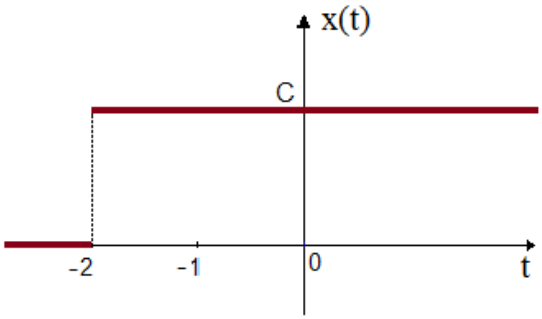


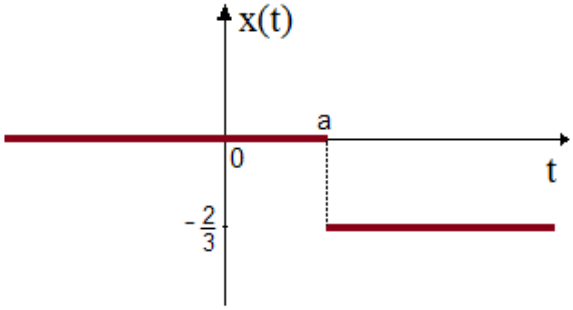
Análise de Sinais - Homework 03
(Sinais Singulares)

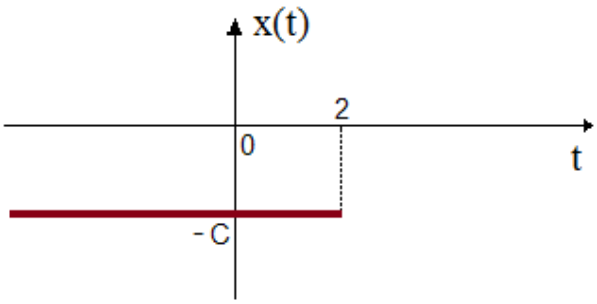
2) – Escreva os **sinais contínuos** x(t) abaixo como a combinação linear de **funções singulares** (*impulso*, *degrau* e *rampa*).

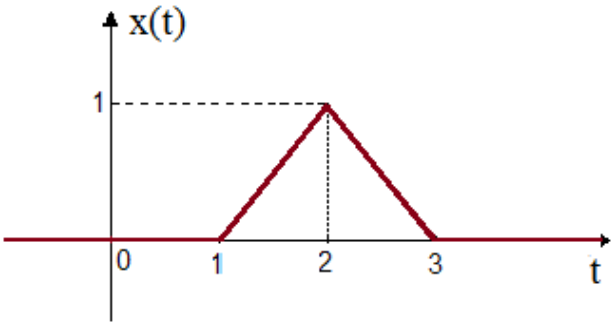


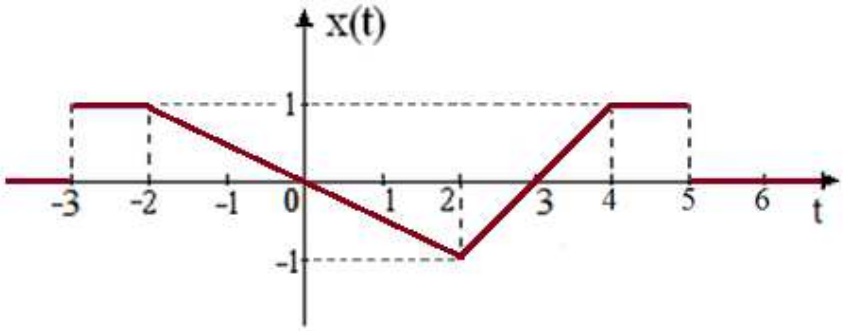


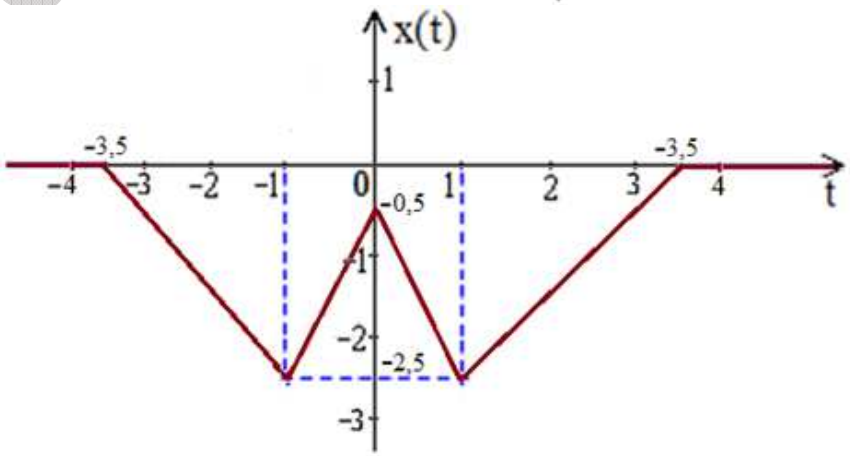






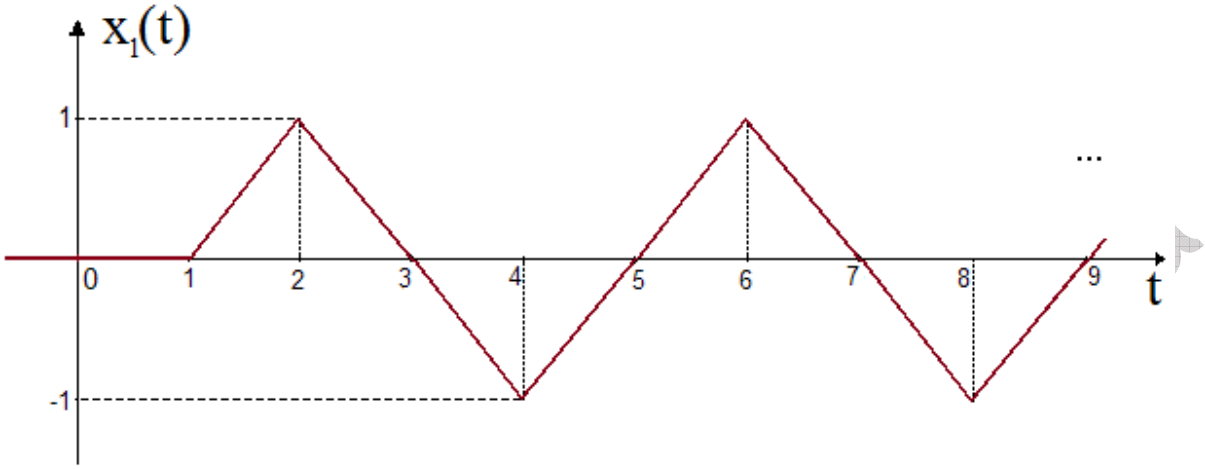


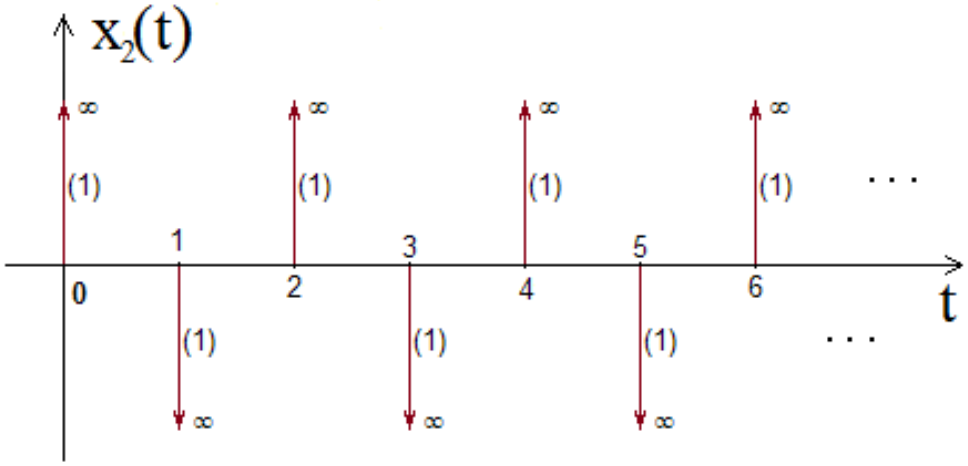




Análise de Sinais - Homework 03
(Sinais Singulares)

3) – Escrever uma expressão para o **sinal** $x_1(t)$ abaixo como uma soma de *rampas* e para o **sinal** $x_2(t)$ abaixo como uma soma de *impulsos*.





4) – Verificar se os **sinais** abaixo são **periódicos** e, em caso afirmativo, calcular o **período fundamental** N_o, a **frequência** ω_o (em rad/s) e a **frequência** f_o (em Hertz).

a) $x[n] = \cos[n]$;

b) $x[n] = \cos(\pi n/4)$;

c) $x[n] = e^{j\,2n}$;

d) $x[n] = e^{j\sqrt{2}\cdot\pi n}$;

e) $x[n] = e^{j\frac{\pi n}{5}}$.