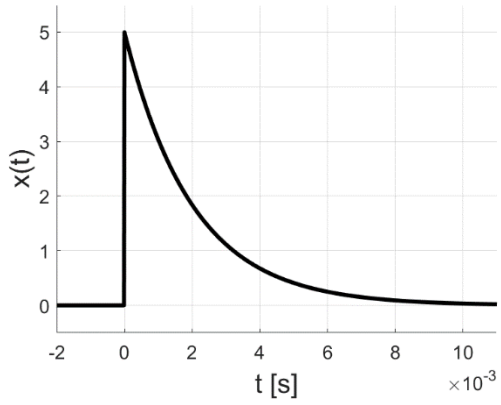
08 Exercices - Corrigés

Signal; représentation analytique et graphique

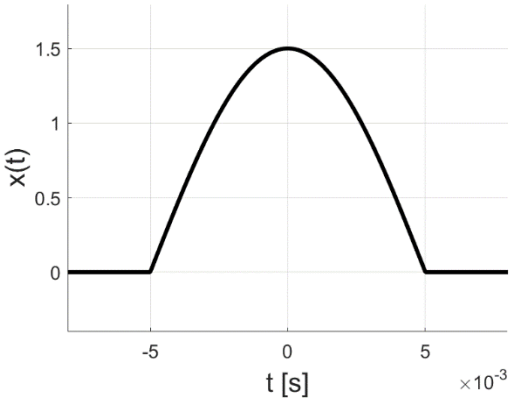
1. Exprimer analytiquement les signaux donnés sous forme graphique.

a)



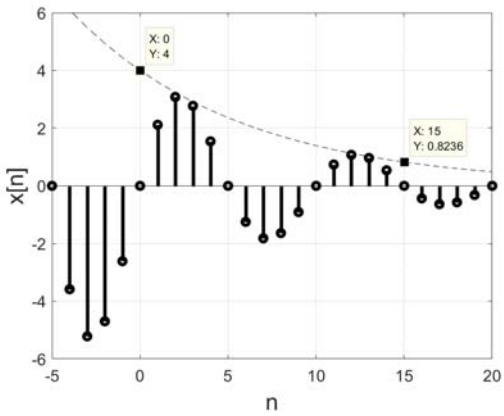
$x(t) = u(t) \cdot 5 \cdot \exp\left(-\frac{t}{2ms}\right)$

b)



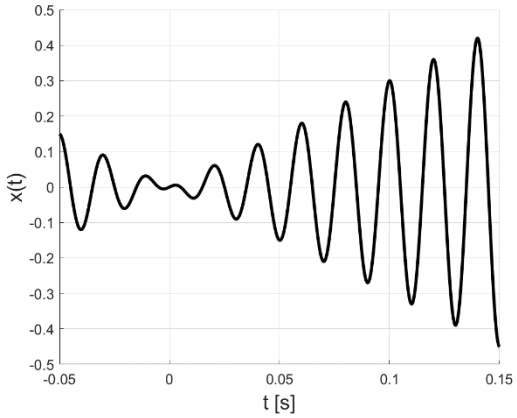
$x(t) =$
$u(t + 5ms) \cdot 1.5 \cdot \cos(2\pi 50Hz \cdot t) \cdot u(-t + 5ms)$

c)



$x[n] = 4 \cdot 0.9^n \cdot \sin\left(\frac{2\pi}{10}n\right)$

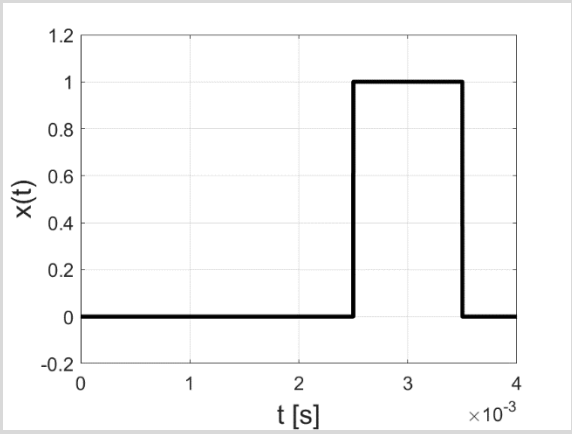
d)



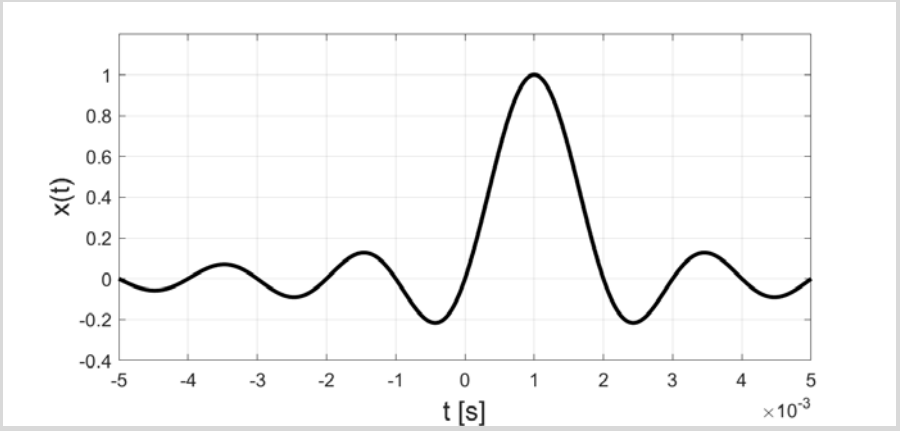
$x(t) = 3 \cdot \mathrm{t} \cdot \cos(2\pi 50Hz \cdot t)$

2. Avec $T = 1ms$, $\omega = 6\pi \cdot 10^3\ [rad/s]$ et $A = 1.2$V, représenter graphiquement les signaux suivants :

a) $rect\left(\frac{t-3T}{T}\right)$



b) $sinc\left(\frac{t-T}{T}\right)$



c) $x(t) = Re\left\{A \cdot e^{-\frac{t}{T}} \cdot e^{j\omega t}\right\}$