第二章作业答案

（仅供参考，有疑问请联系助教）

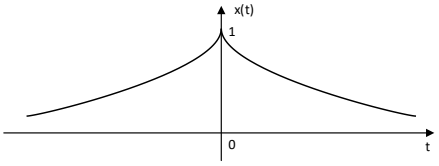
第一周:

二：2.1(1, 2) 2.5(2.1(1, 2)) 2.6(2.1(1, 2)) 2.8(2)

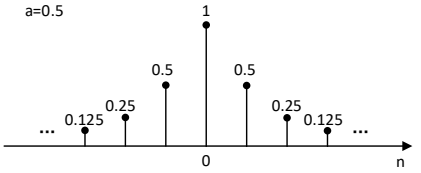
四：2.2(1dh, 2bc) 2.3(a, f) 2.4(1, 10)

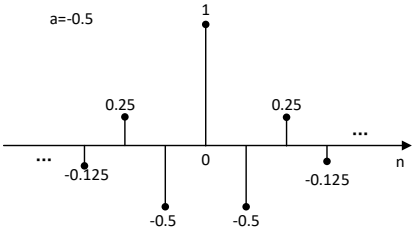
2.1 概略画出下列每个信号的波形或序列图形，并将坐标加以标注。

（1）

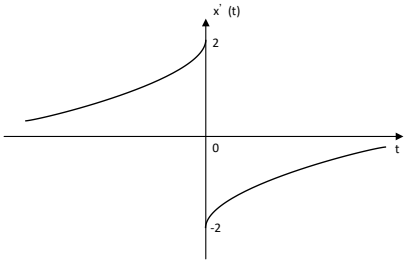


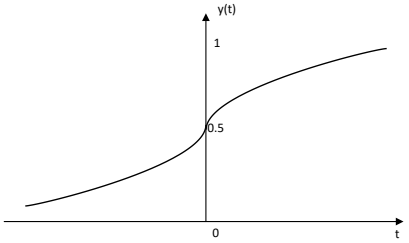
（2）





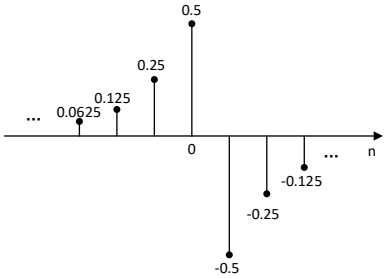
2.5 （1） $y(t)=\begin{cases}-2e^{-2t}, t\geq 0\\ 2e^{2t}, t<0\end{cases}$ （2） $y(t)=\begin{cases}1-0.5e^{-2t}, t\geq 0\\ 0.5e^{2t}, t<0\end{cases}$

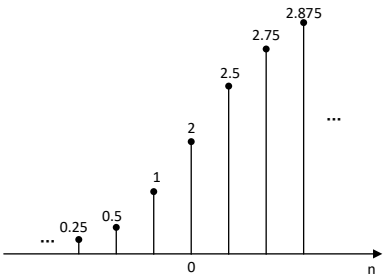




2.6 （a=0.5）

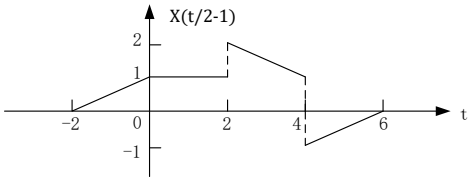
（1） $y[n]=\begin{cases}a^{n}-a^{n-1}, n>0\\ a^{-n}-a^{-n-1}, n\leq 0\end{cases}=\begin{cases}-(\frac{1}{2})^{n}, n>0\\ (\frac{1}{2})^{1-n}, n\leq 0\end{cases}$ （2） $a=\frac{1}{2}, y[n]=\begin{cases}3-(\frac{1}{2})^{n}, n>0\\ 2^{n+1}, n\leq 0\end{cases}$



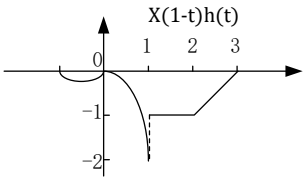


2.8-(2) $y[0]=0$, $y[n]-y[n-1]=\frac{k}{12}y[n-1]+x[n]$

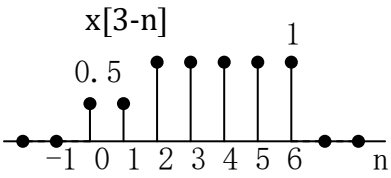
2.2-1-d



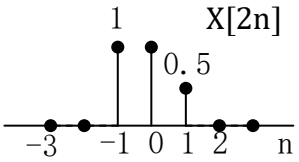
2.2-1-h



2.2-2-b



2.2-2-c



2.3 (a) $tu(t)-(t-1)u(t)-u(t-2)$ **(f)** $u[n]-2u[n-4]+u[n-8]$

2.4-1 $e^{-2t}u(t)-\delta(t)$ **2.4-10** $nu[n]-(n-5)u[n]$