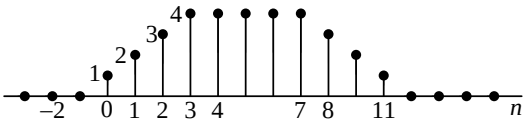
第四周

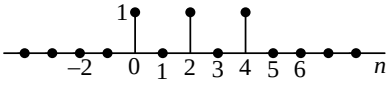
二：3.6（1，3） 3.7（1，3，9）

四：3.9 3.10 3.11 3.12（1，2） 3.16

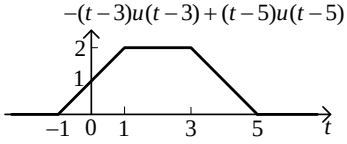
3.6-1 $y[n]=(n+1)u[n]-(n-3)u[n-4]$
$-(n-7)u[n-8]+(n-11)u[n-12]$



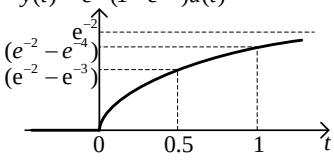
3.6-3 $y[n]=0.5\{[1+(-1)^n](u[n]-u[n-6])\}$



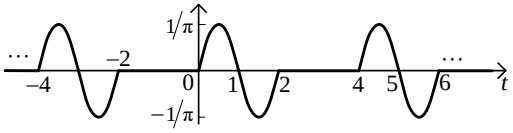
3.7-1 $y(t)=(t+1)u(t+1)-(t-1)u(t-1)$
$-(t-3)u(t-3)+(t-5)u(t-5)$



3.7-3 $y(t)=\mathrm{e}^{-2}(1-\mathrm{e}^{-2t})u(t)$



3.7-9 $y(t)=\dfrac{\sin \pi t}{\pi}\sum_{n=0}^{\infty}u(t-4n)-u(t-4n-2)$



3.9 $y[n]=\sin(8n)$

3.10 1） $h[n]=h_1[n]*(h_2[n]-h_3[n]*h_4[n])+h_5[n]$

2） $h[n]=5\delta[n]+6\delta[n-1]-4\delta[n-3]+7u[n-2]$

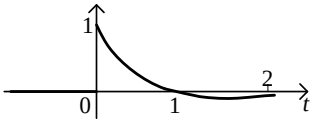
3） $x[n]=-\delta[n+2]-\delta[n]+2\delta[n-1]+\delta[n-2]-\delta[n-4]$

n	−2	−1	0	1	2	3	4	5	6	7	8	9
$-\delta[n+2]$	−5	−6	−7	−3	−7	−7	−7	−7	−7	−7	−7	−7
$-\delta[n]$			−5	−6	−7	−3	−7	−7	−7	−7	−7	−7
$2\delta[n-1]$				10	12	14	6	14	14	14	14	14
$\delta[n-2]$					5	6	7	3	7	7	7	7
$-\delta[n-4]$							−5	−6	−7	−3	−7	−7
求和	−5	−6	−12	1	3	10	−6	−3	0	4	0	0

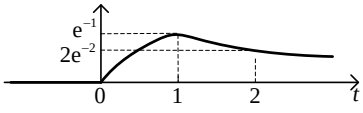
$y[n]=-5\delta[n+2]-6\delta[n+1]-12\delta[n]+\delta[n-1]+3\delta[n-2]+10\delta[n-3]$
$-6\delta[n-4]-3\delta[n-5]+4\delta[n-7]$

3.11 1） $h(t)=\{[h_1(t)*h_2(t)-h_3(t)*h_4(t)]*h_3(t)+h_3(t)*h_2(t)]*h_5(t)-h_3(t)\}*h_6(t)$

2） $h(t)=(1-t)\mathrm{e}^{-t}u(t)$



3） $y(t)=t\mathrm{e}^{-t}u(t)$

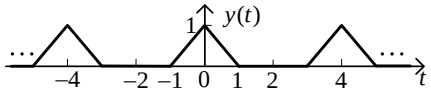


3.12 1） $h(t)=\mathrm{e}^{-(t-2)}u(t-2)$

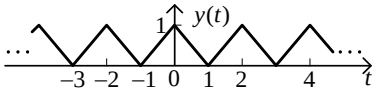
2） $y(t)=(1-\mathrm{e}^{-(t-1)})u(t-1)-(1-\mathrm{e}^{-(t-4)})u(t-4)$

3） $y(t)=(1-\mathrm{e}^{-(t-1)})u(t-1)-(1-\mathrm{e}^{-(t-2)})u(t-2)-(1-\mathrm{e}^{-(t-4)})u(t-4)+(1-\mathrm{e}^{-(t-5)})u(t-5)$

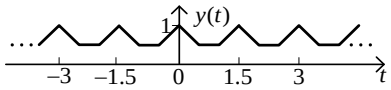
3.16 1) ①


y(t)
1
−4
−2
−1
0
1
2
4
t

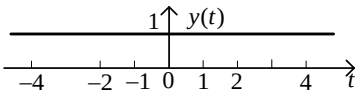
②


y(t)
1
−3
−2
−1
0
1
2
4
t

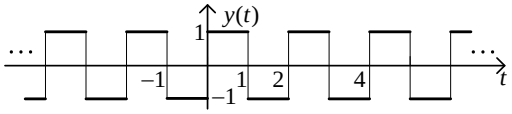
③


y(t)
1
−3
−1.5
0
1.5
3
t

④


y(t)
1
−4
−2
−1
0
1
2
4
t

2)


y(t)
1
−1
1
2
4
−1
t