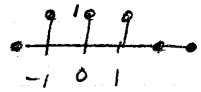
① Text 7-2b

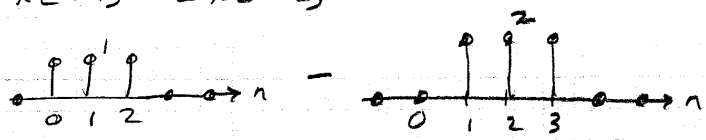
$$g[n] = \underbrace{\text{rect}_2[2n]}_{\text{call this } x[n]} * (\delta[n-1] - 2\delta[n-2])$$

$x[n]$:

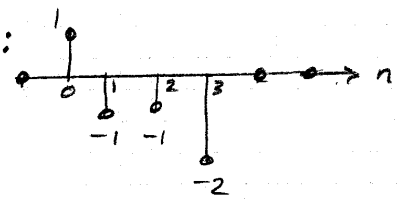


$$= x[n-1] - 2x[n-2]$$

$g[n] =$



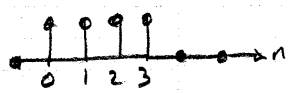
$g[n]$:



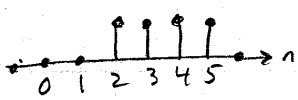
② Text, 7-3

$$y[n] = x[n] * h[n] = x[n] * (\delta[n] - \delta[n-2])$$
$$= x[n] - x[n-2]$$

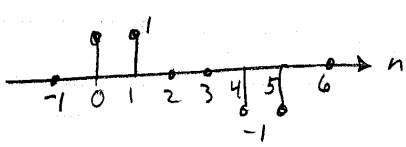
$x[n]$:



$x[n-2]$

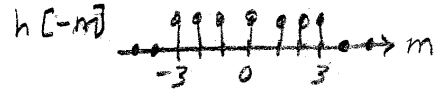


$=$



③ Text, 7-46

$$g[n] = \underset{x[n]}{u[n+2]} * \underset{h[n]}{rect_3[n]}$$



index m=	-5	-4	-3	-2	-1	0	1	2	3	4	5	6	7
x[m]	0	0	0	1	1	1	1	1	1	1	1	1	1
h[-6+m]	1	1	1	1									
h[-5+m]	1	1	1	1	1								
h[-4+m]	1	1	1	1	1	1							
h[-3+m]	1	1	1	1	1	1	1						
h[-2+m]	0	1	1	1	1	1	1	1					
h[-1+m]	0	0	1	1	1	1	1	1	1				
h[0+m]	0	0	0	1	1	1	1	1	1	1			

$g[-6] = 1$

$g[-5] = 1+1 = 2$

$g[-4] = 1+1+1 = 3$

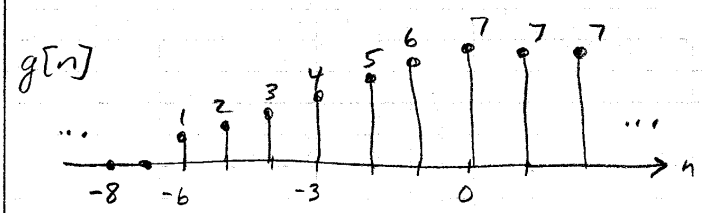
$g[-3] = 1+1+1+1 = 4$

$g[-2] = 5$

$g[-1] = 6$

$g[0] = 7$

$g[1] = 7$



$$\boxed{g[n] = ramp[n+7] - ramp[n]}$$

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