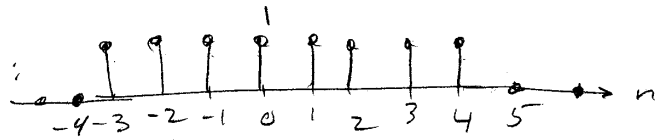
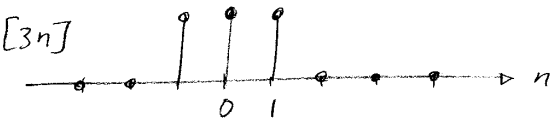
① Text 3-8

$g[n]$:



(a) $\sum g[n] = 8 \cdot 1 = \boxed{8}$

(b) $g[3n]$



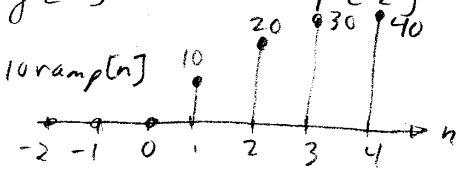
this is $g[n]$ time compressed by a factor of 3

$\sum g[3n] = 3 \cdot 1 = \boxed{3}$

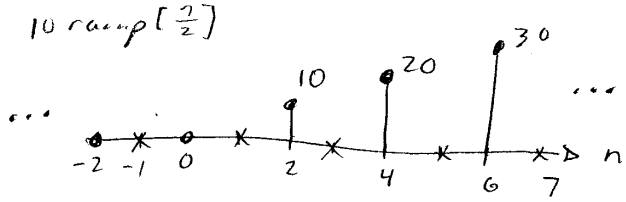
② Text 3-21 d, l

(d) $g[n] = 10\,\text{ramp}\left[\frac{n}{2}\right]$

$10\,\text{ramp}[n]$

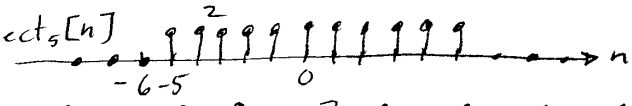


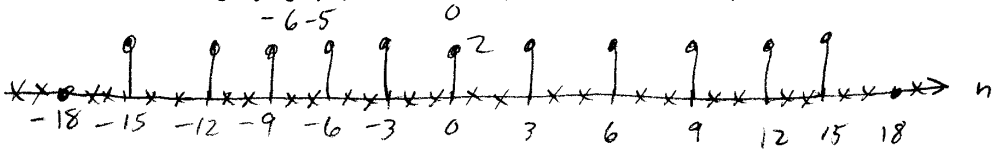
$10\,\text{ramp}\left[\frac{n}{2}\right]$



(l) $g[n] = 2\,\text{rect}_5\left[\frac{n}{3}\right]$

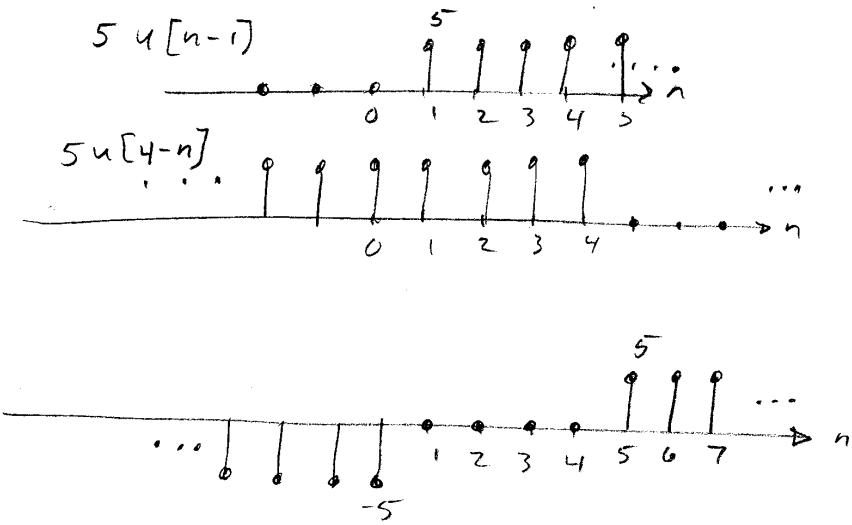
$2\,\text{rect}_5[n]$



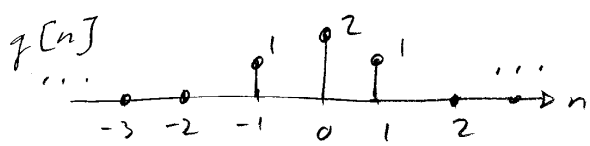


(3) Text, 3-26 c, i

(c) $g[n] = 5\left(u[n-1] - u[4-n]\right)$



(i) $g[n] = \text{ramp}[n+2] - 2\,\text{ramp}[n] + \text{ramp}[n-2]$

hard to plot well, so use a table

index	-4	-3	-2	-1	0	1	2	3	4	5	
ramp[n+2]	0	0	0	1	2	3	4	5	6	7	...
-2 ramp[n]	0	0	0	0	0	-2	-4	-6	-8	-10	...
ramp[n-2]	0	0	0	0	0	0	0	1	2	3	
g[n]	0	0	0	1	2	1	0	0	0	0