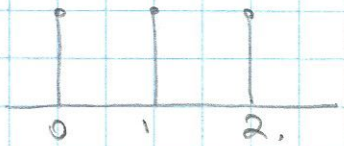
2nd method. - DT version of the CT method

- computes the area of overlap between one signal and the flipped and shifted version of the other.

Step 1: Draw $x_1[k]$, $x_2[-k]$ and an output axis for $y[n]$.

Step 2: Slide $x_2[n-k]$ across $x_1[k]$ and compute $y[n]$ as the "area" of overlap.

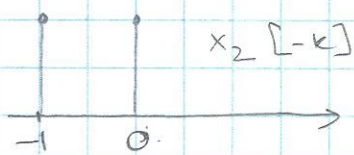
$x_1[n] = rect_3[n]$



$x_2[n] = rect_2[n]$

Step 1

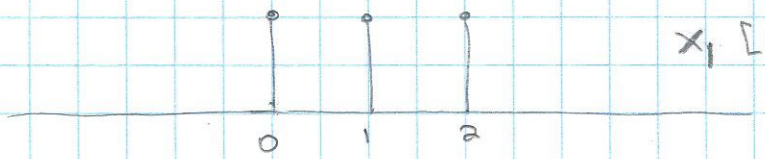
$x_1[k]$

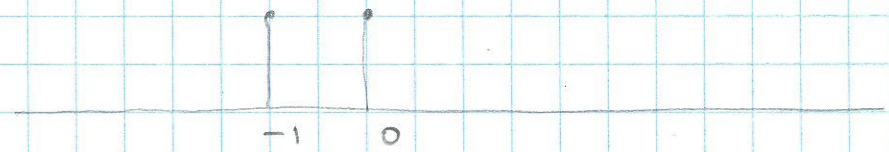


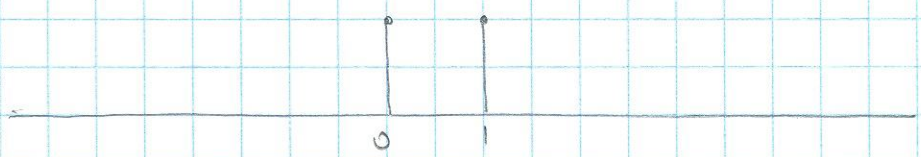
$y[n]$

Step 2

Slide $x_2[n-k]$ across $x_1[k]$, compute $y[n]$ as area of overlap







$y[n] = 0$ for $n<0$.

$n=0$. $y[0] = 1$.

$n=1$ $y[1] = 2$.

$n=2$ $y[2] = 2$.

$n=3$ $y[3] = 1$

$y[n] = 0$ for $n>3$.