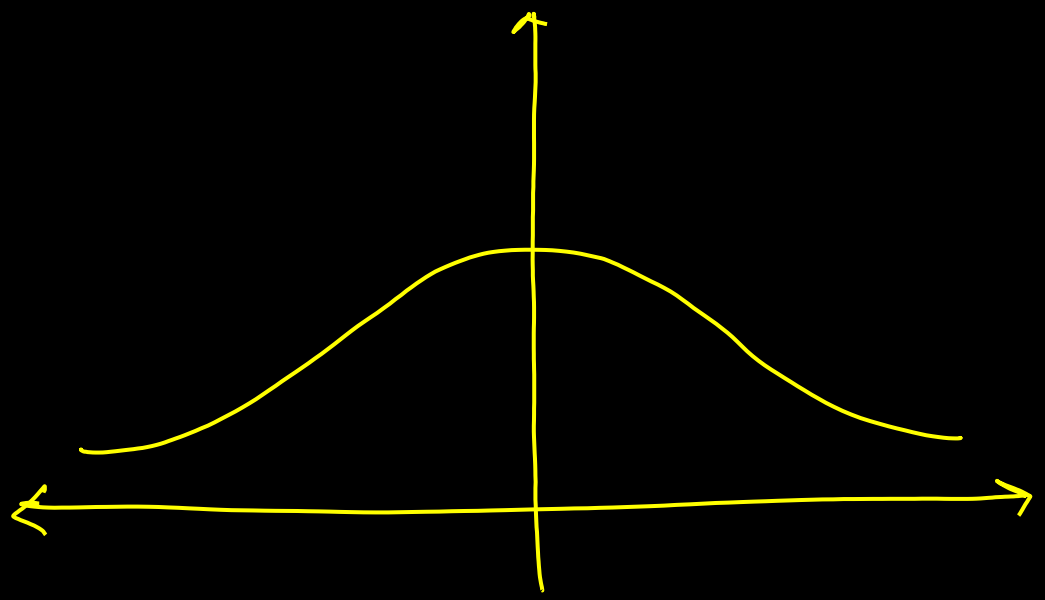
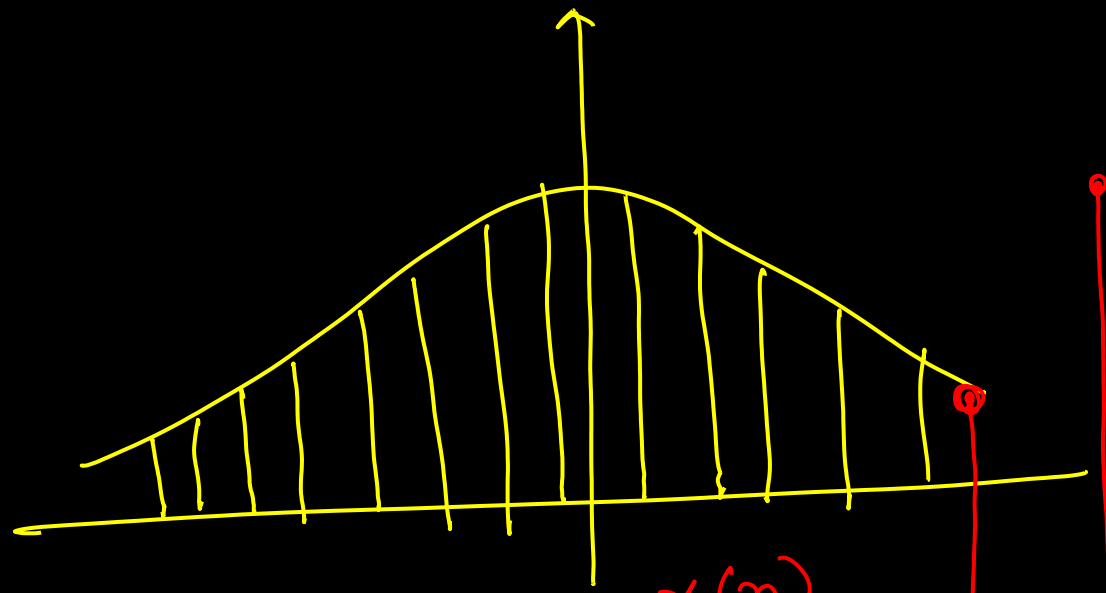
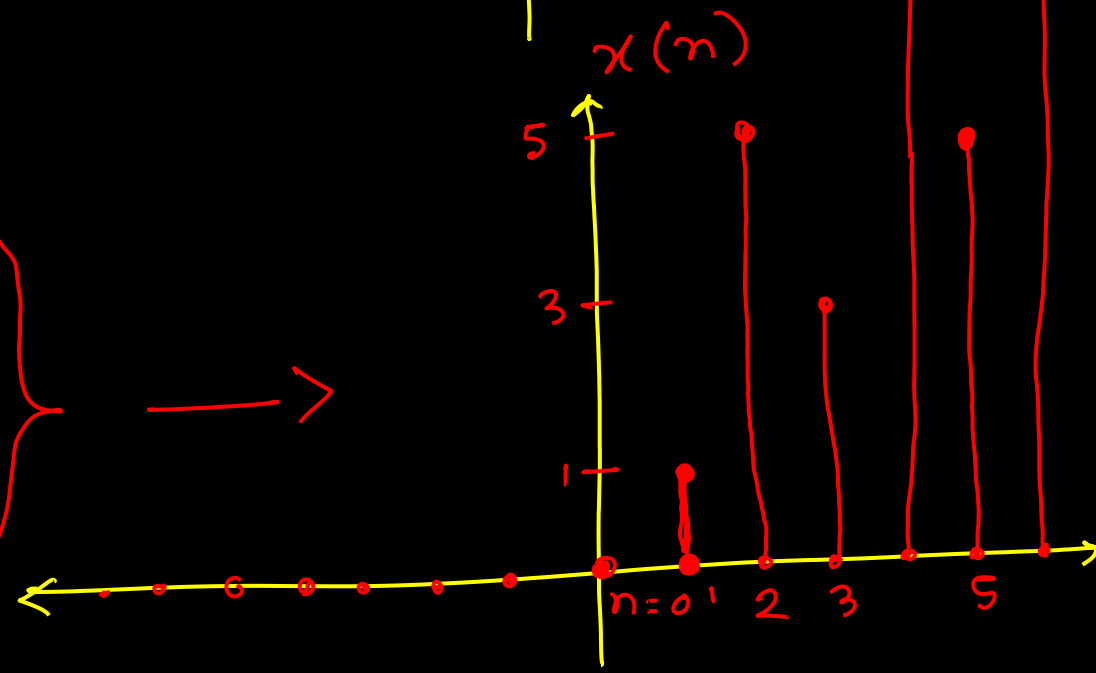


$\Rightarrow$



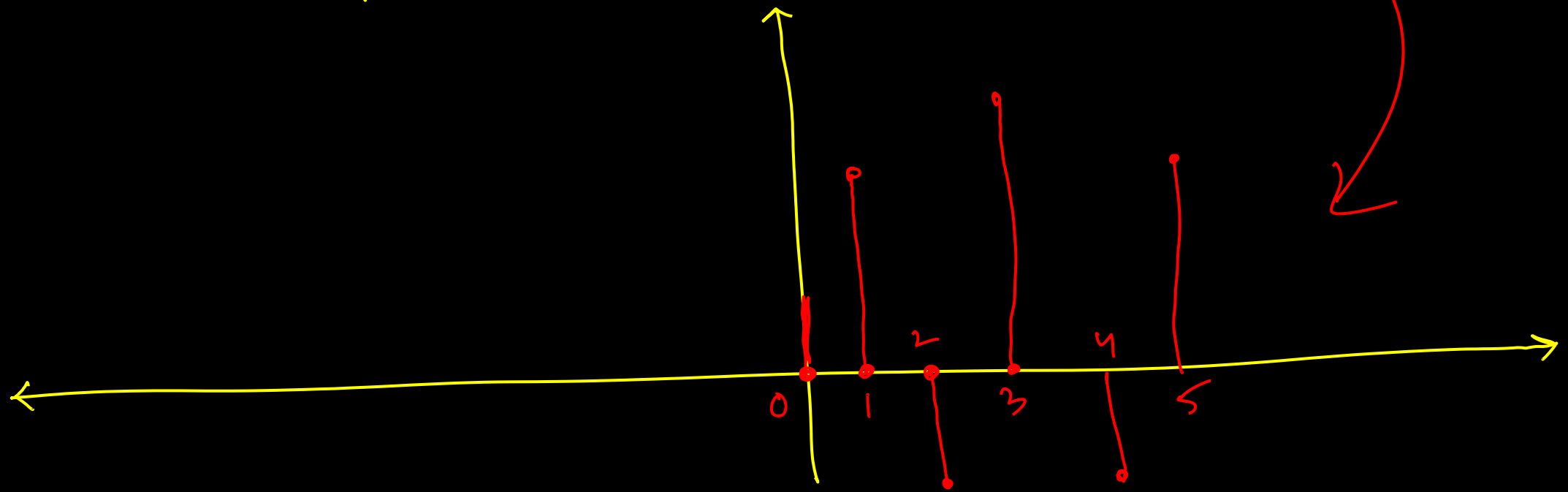
① Functional Representation

$$x(n) = \begin{cases} n, & \text{when } n = 1, 3, 5 \\ 2n+1, & \text{when } n = 2, 4, 6 \\ 0, & \text{elsewhere} \end{cases}$$



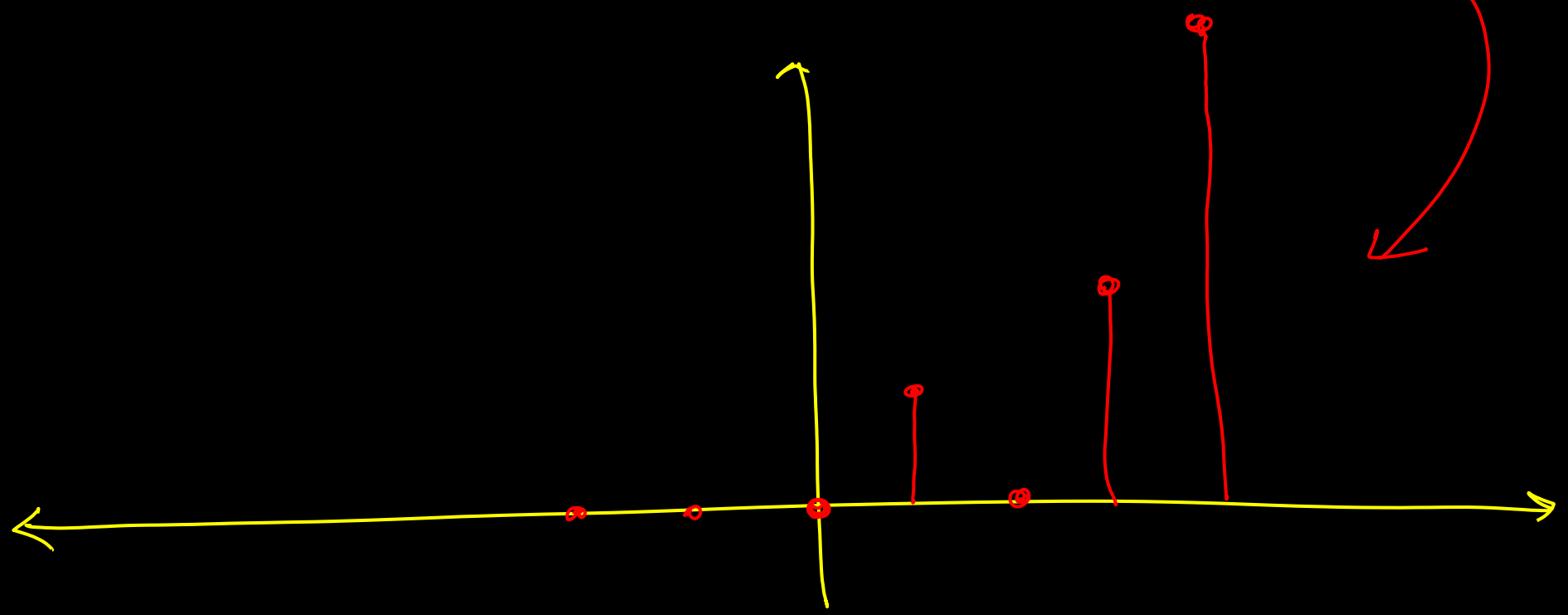
(11) Tabular representation

n	0	1	2	3	5	6
$x(n)$	1	3	-2	4	-2	3



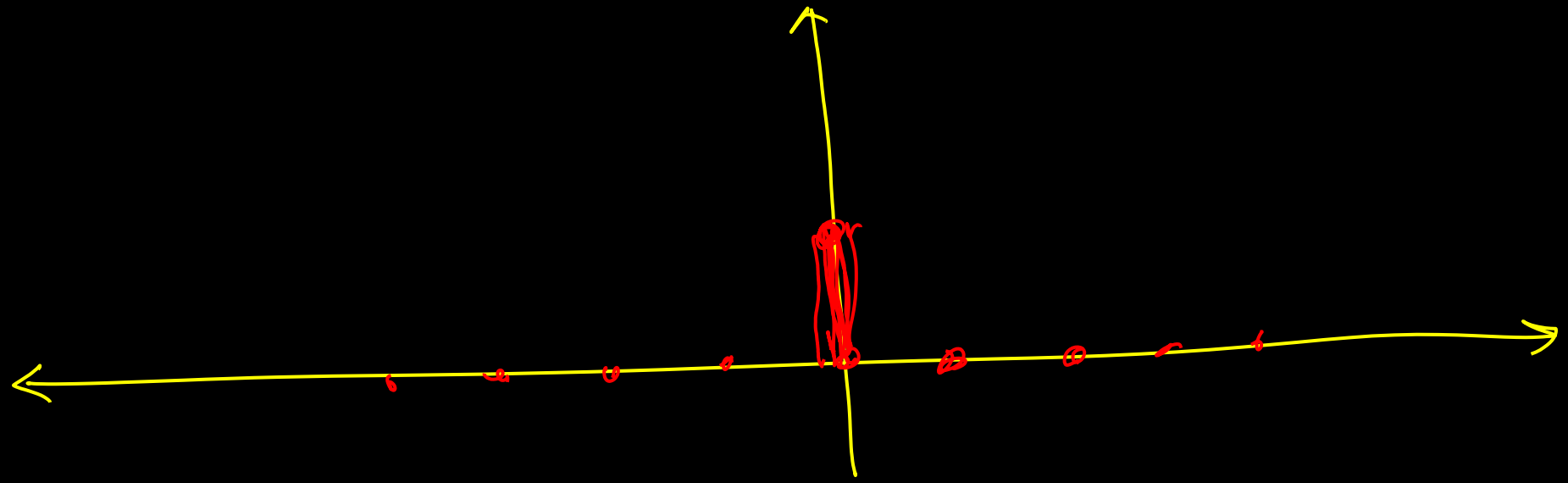
(iii) Sequence representation

$$x(n) = \{\ldots, 0, \underset{\uparrow}{\underset{n=0}{0}}, 1, 0, 2, 5, \ldots\}$$



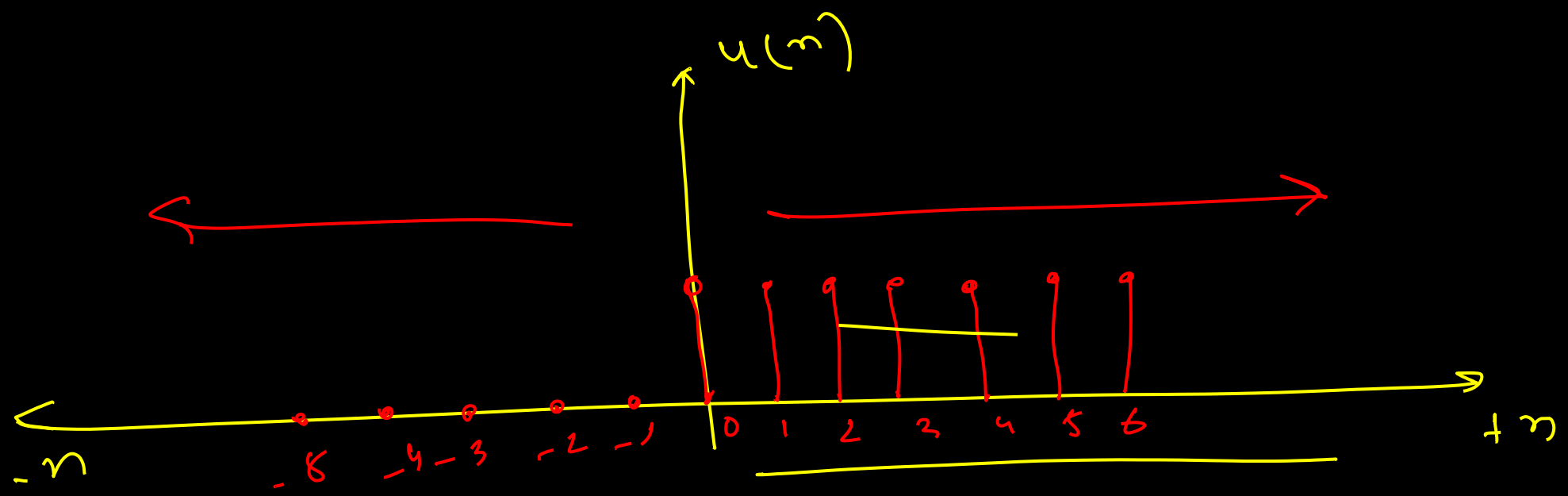
① Unit sample signal, $\delta(n)$

$$\delta(n) = \begin{cases} 1, & n = 0 \\ 0, & n \neq 0 \end{cases}$$



(11) Unit step signal , $u(n)$

$$u(n) = \begin{cases} 1 & , n \geq 0 \\ 0 & , n < 0 \end{cases}$$

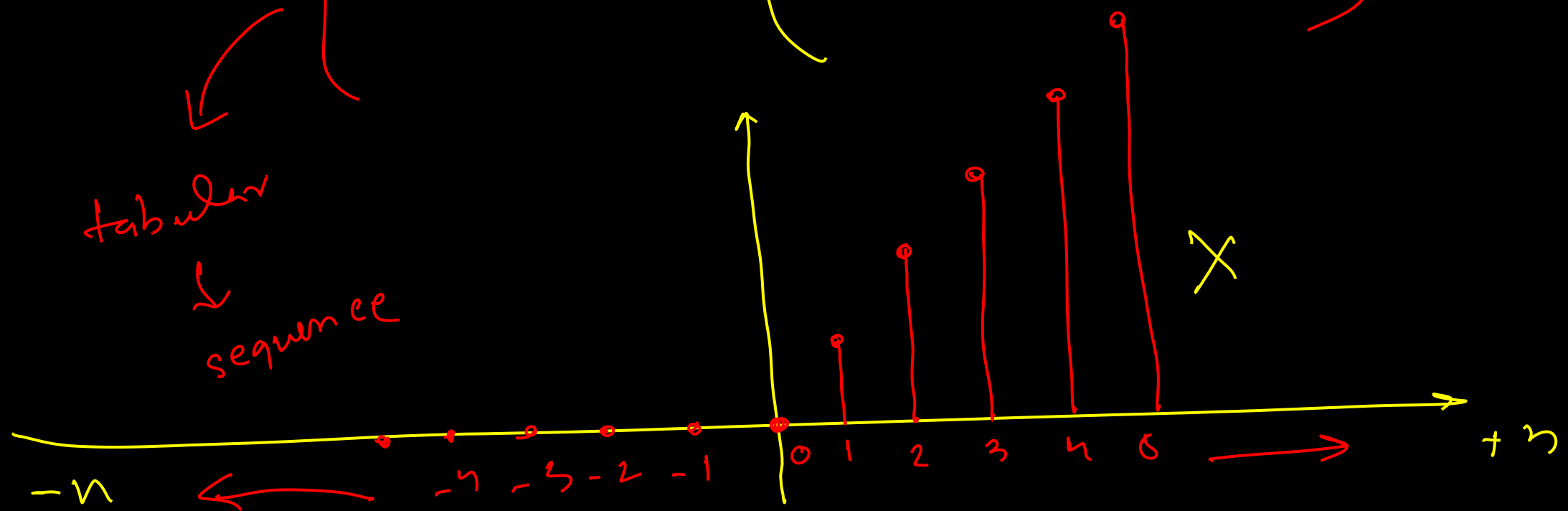


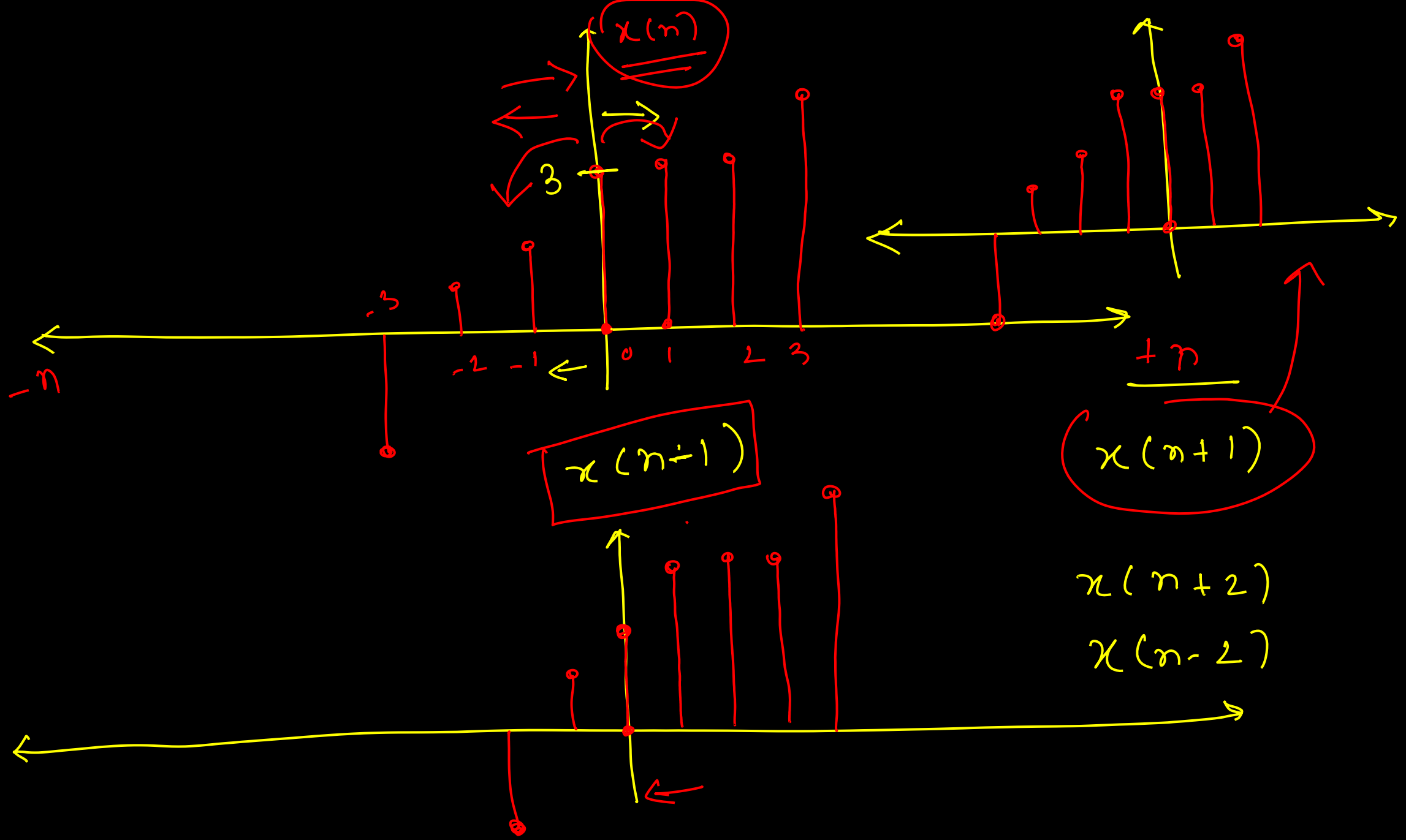
(iii) Unit ramp signal, $r(n)$

$$r(n) = \begin{cases} n, & n \geq 0 \\ 0, & n < 0 \end{cases}$$

$r(n-1)$

tabular sequence




x(n)
3
-3
-2
-1
0
1
2
3
-n
+n
x(n+1)
x(n-1)
x(n+2)
x(n-2)

$x(2n-3)$

$x(3n+2)$

$x(-n)$

$x(-n+1)$

$x(-n-2)$

$x(2n-3)$

$x(n)$

$x(2n)$

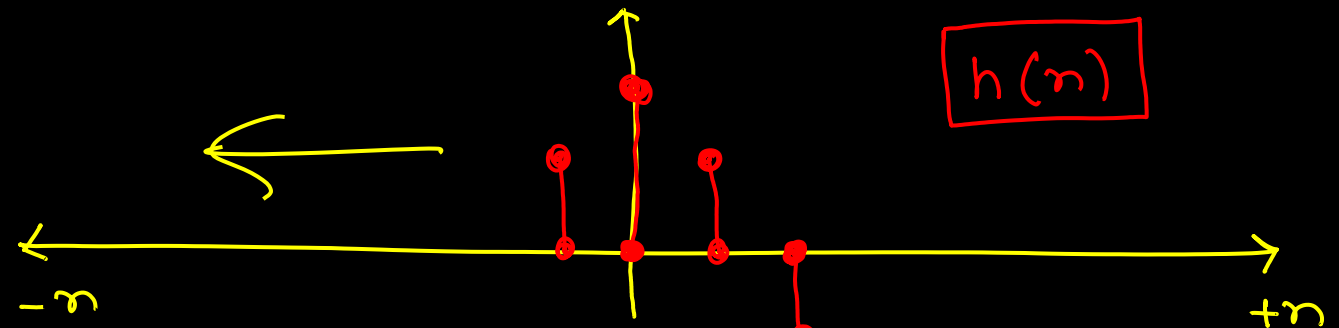
$x(2n-3)$

$h(n)$

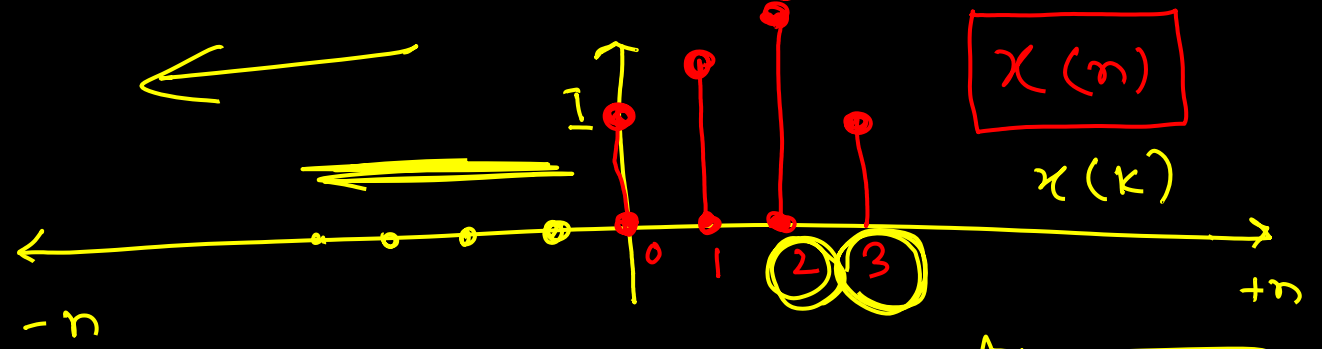
$x(n)$

$x(2n-3)$

$$h(n) = \{1, \underset{\uparrow}{2}, 1, -1\}$$



~~$x(n) = \{1, 2, 3, 1\}$~~ (n: 0 1 2 3)



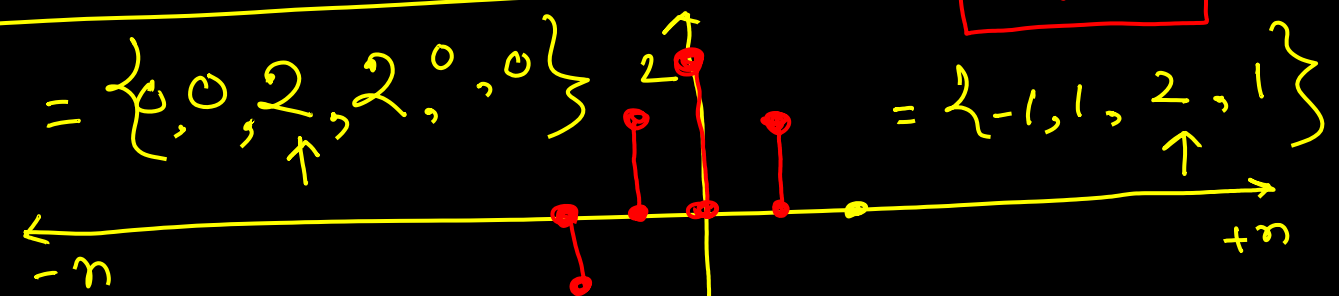
$$y(n) = \sum_{k=-\infty}^{\infty} x(k) \cdot h(n-k)$$

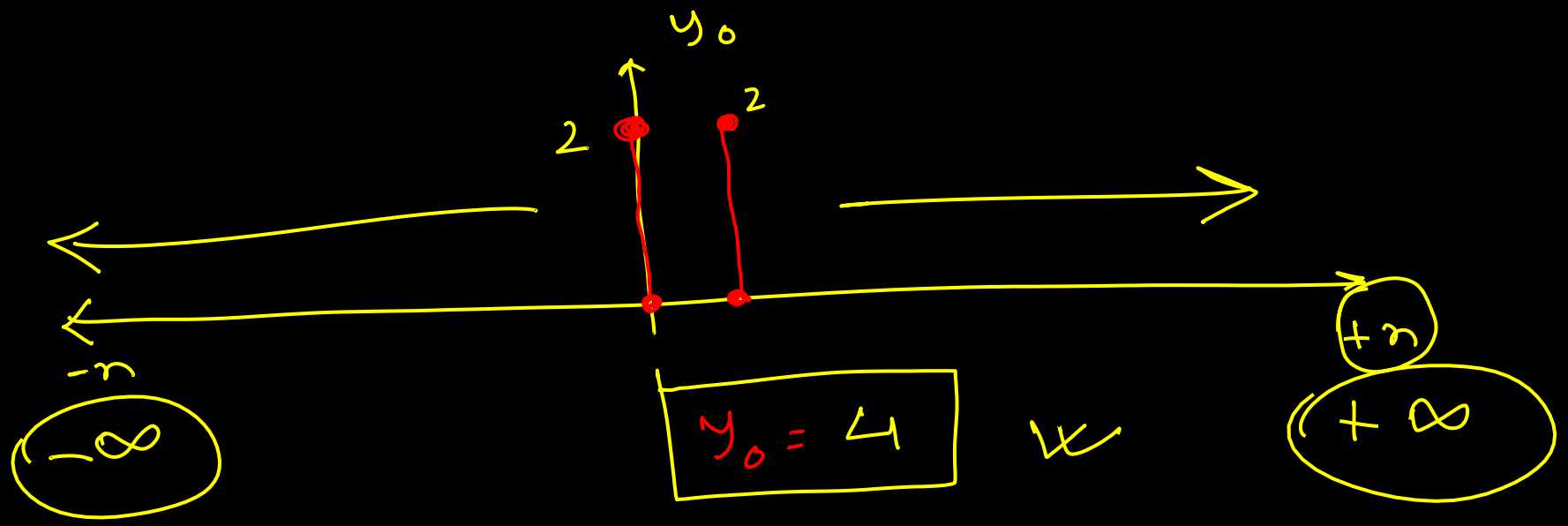
$y_4 = 0$

$h(-k)$ $y_{-5} = 0$

$h(-k)$

$$y_0 = \sum_{k=-\infty}^{\infty} x(k) \cdot h(0-k) \leftarrow = \{0, \underset{\uparrow}{0}, 2, 2, 0, 0\} = \{-1, 1, \underset{\uparrow}{2}, 1\}$$





$$y_1 = \sum_{k=-\infty}^{\infty} x(k) \cdot h(1-k)$$

$h(-k+1)$

$x(n)$

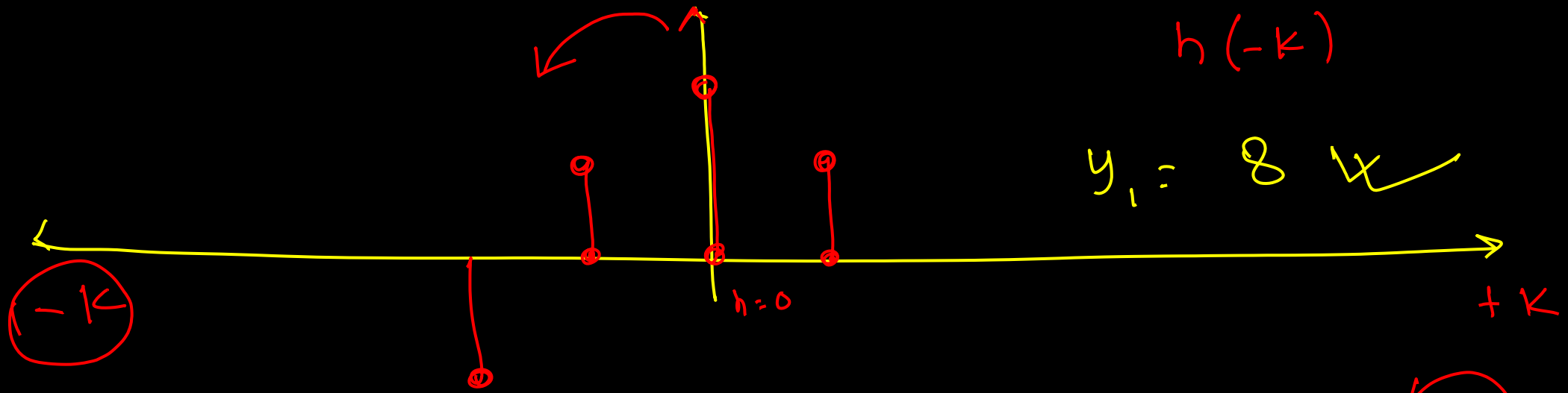
$x(n+1)$ =>

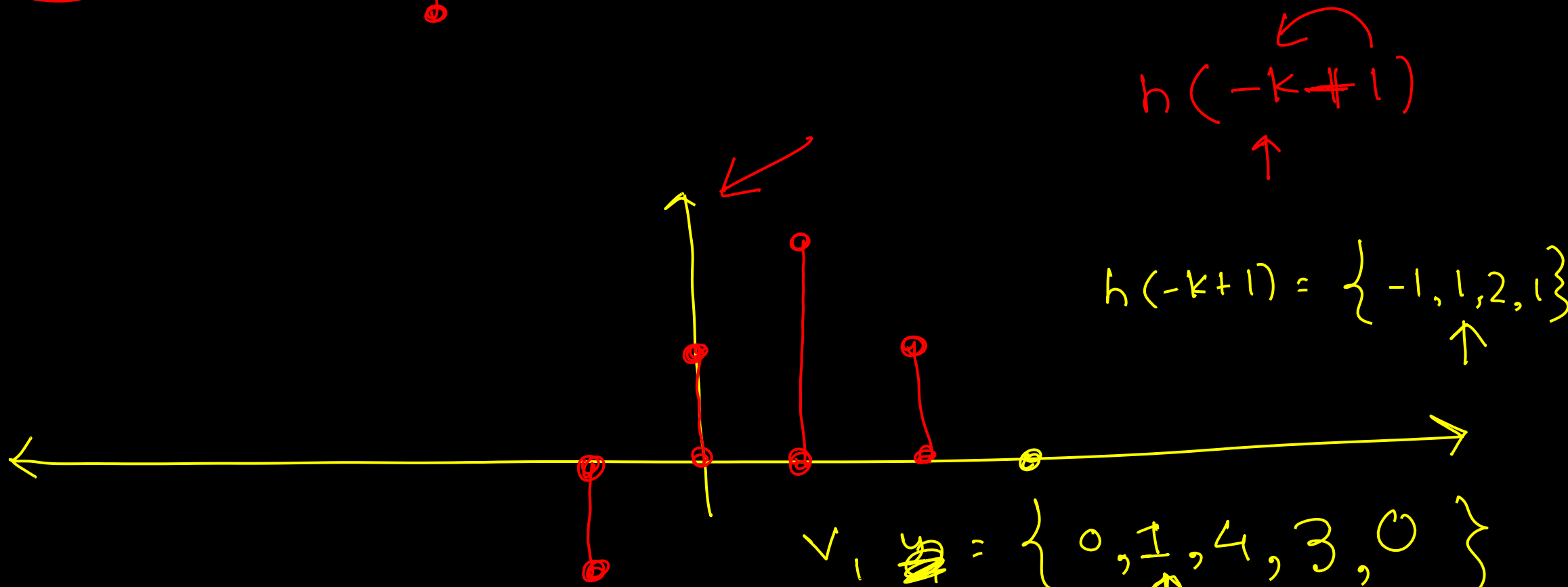
$x(n-1)$

$x(-n)$

$x(-n+1)$

$x(-n-1)$


h(-k)
y1 = 8 k
-k
h=0
+k

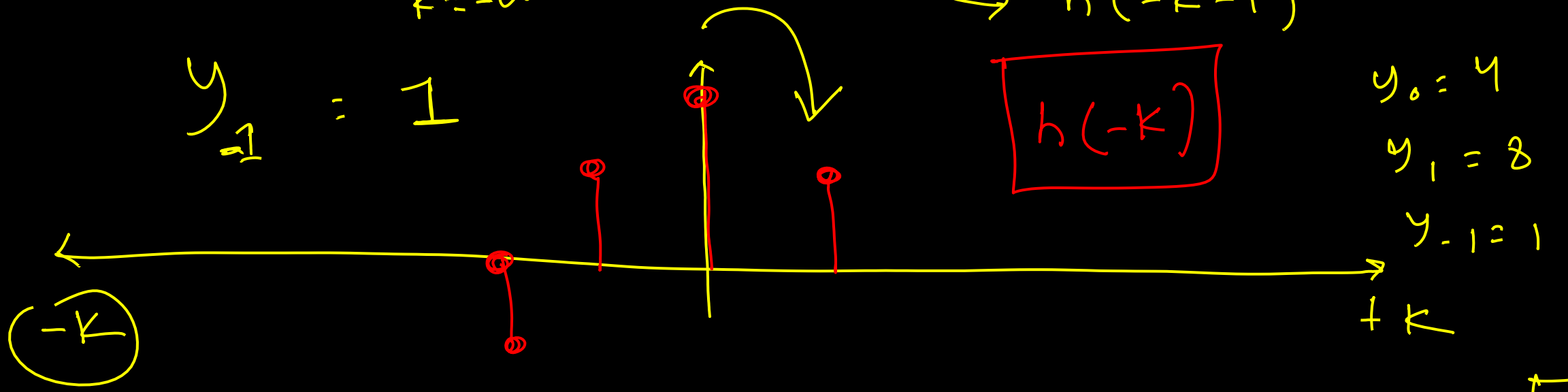

h(-k+1)
h(-k+1) = {-1, 1, 2, 1}
y1 = {0, 1, 4, 3, 0}

$$y_{-1} = \sum_{k=-\infty}^{\infty} x(k) \cdot h(-1-k)$$

$$h(-1-k) \rightarrow h(-k-1)$$

$$y_{-1} = 1$$

$h(-k)$



$y_0 = 4$

$y_1 = 8$

$y_{-1} = 1$

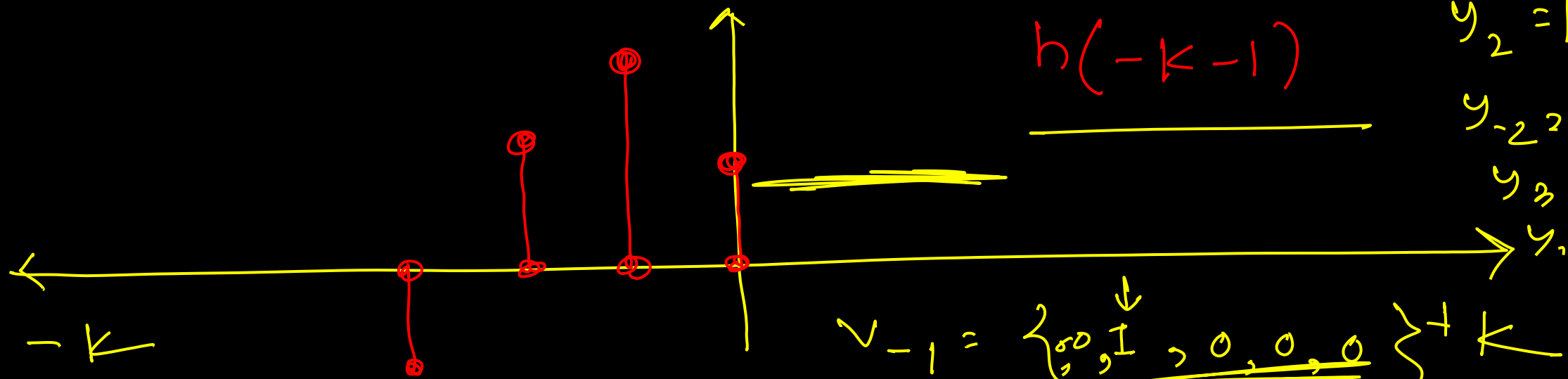
$h(-k-1)$

$y_2 = \square$

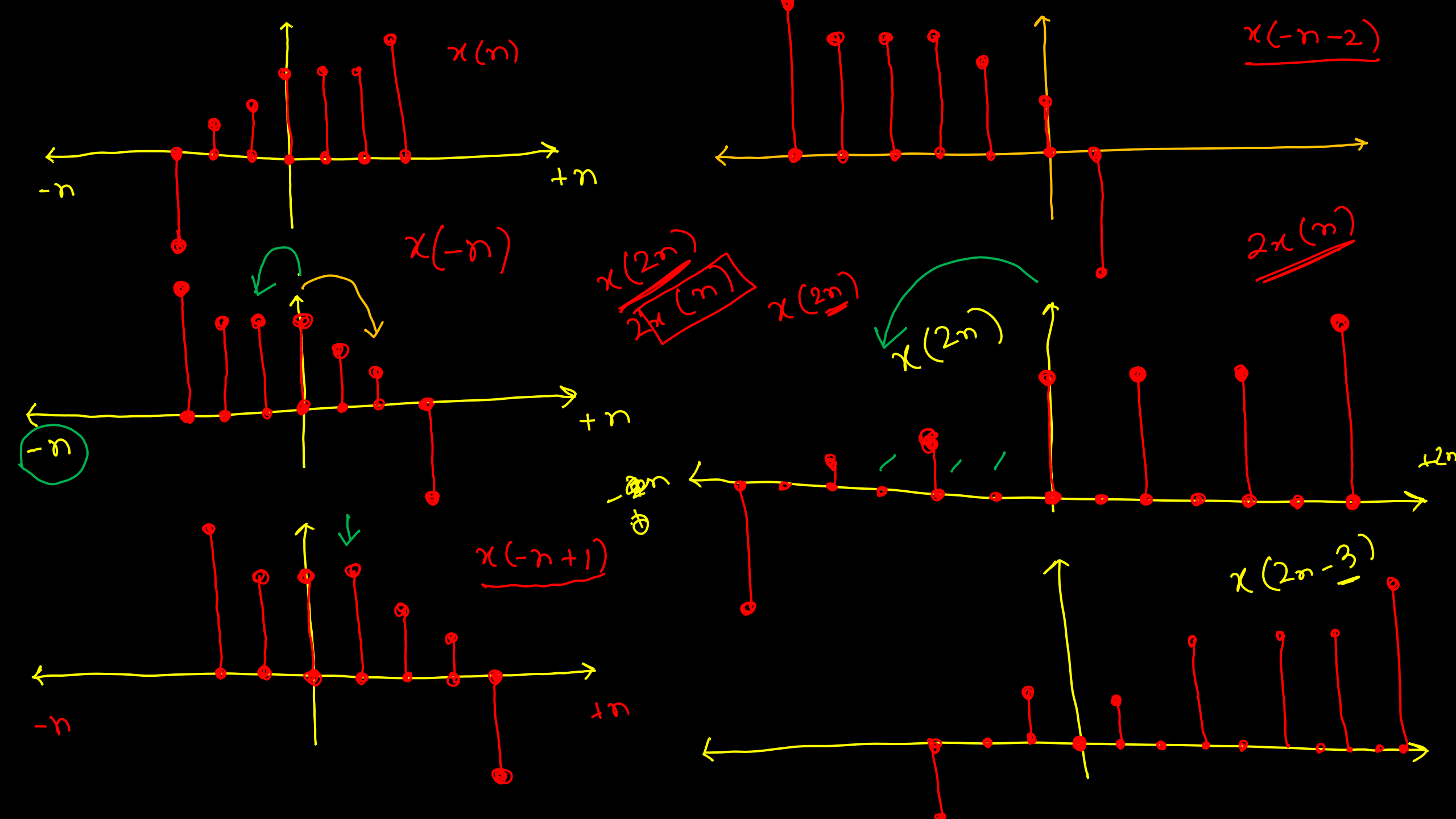
$y_{-2} = \square$

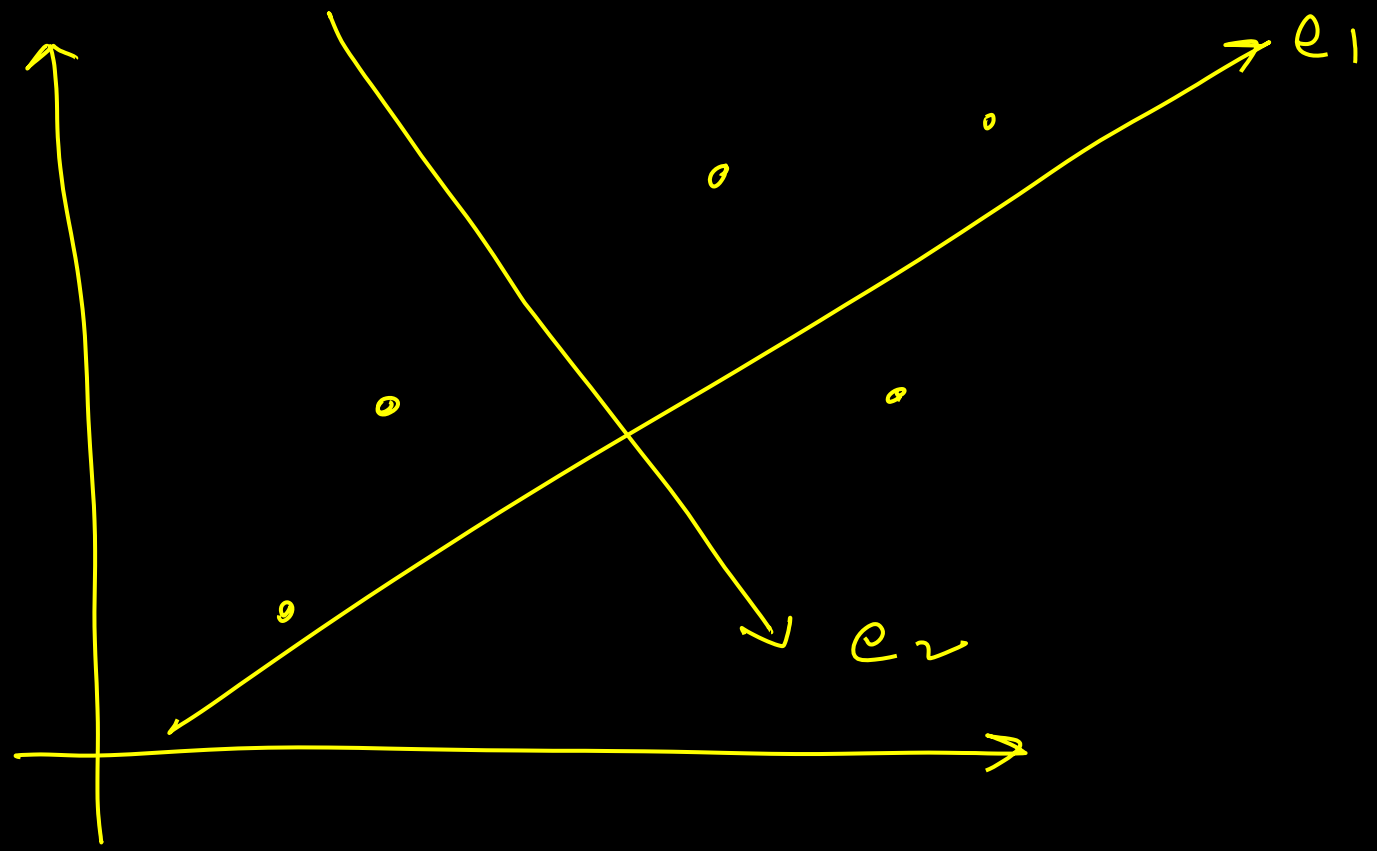
$y_3 = \square$

$y_{-3} = \square$



$$y_{-1} = \{\underset{\downarrow}{0}, 1, 0, 0, 0\}$$


x(n)
-n
+n
x(-n)
-n
+n
x(-n+1)
-n
+n
x(-n-2)
x(2n)
2x(n)
x(2n)
x(2n)
2x(n)
-2n
0
+2n
x(2n-3)


e1
e2

$x(n) = \{-2, 1, 3, 4\}$

$n = 0$

$x(n-2)$

$x(-n-2)$

$x(n-2)$

$x(-n+1)$