

3^e méthode

$g_1(n)$ = Réponse à une impulsion

$\Downarrow x(n) = \delta(n)$

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

$y(n) = x(n) * g_1(n)$

$= g_1(n)$

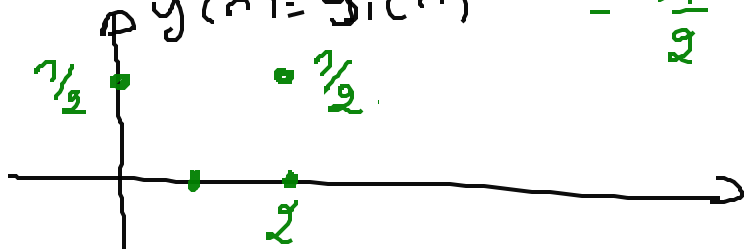
$n=0 \quad y(0) = \frac{1}{2} x(0) + \frac{1}{2} x(-2) = 0$
 $= \frac{1}{2}$

$n=1 \quad y(1) = \frac{1}{2} x(1) + \frac{1}{2} x(-1) = 0$
 $= 0$

$n=2 \quad y(2) = \frac{1}{2} x(2) + \frac{1}{2} x(0) = \frac{1}{2}$

$n > 2$

$y(n) = 0$
 $y(n) = g_1(n) = \frac{1}{2} + \frac{1}{2} \delta(n-2)$



$\downarrow \text{FTZ}$
 $G_1(z) = \frac{1}{2} + \frac{1}{2} z^{-2}$