

Aline
ANDREME

TP de maths : Transformée en Z

Exo 1 : P. 23

$$f(k) = (2k-3)u(k)$$

$$T_z = \frac{2z}{(z-1)^2} - \frac{3z}{z-1} = \frac{z}{z-1} \left(\frac{2}{z-1} - 3 \right)$$

$T_z = 1$
 $u(k) \Rightarrow 1$
 $u(k-2)$ p. 22
 retard

$$f(k) = k u(k-1)$$

$$f(kT_e - pT_e) = z^{-p} (g(k) u(k))$$

$$\begin{cases} g(k-1) = k \\ g(k) = k+1 \end{cases}$$

$$\Rightarrow T_z = z^{-1} (T_z (k+1))$$

$$z^{-1} \left(\frac{z}{(z-1)^2} - \frac{z}{z-1} \right) = \frac{1}{z-1} \left(\frac{1}{z-1} - 1 \right)$$

$$f(k) = 5^k u(k)$$

$$T_z (5^k) = \frac{z}{z-5}$$

$$f(k) = 3^{-k} u(k)$$

$$\text{LD } f(k) = \left(\frac{1}{3} \right)^k$$

$$T_z = \frac{z}{z - \frac{1}{3}}$$

$$f(k) = \frac{3^k}{2^k} \Leftrightarrow \left(\frac{3}{2} \right)^k$$

$$T_z = \frac{z}{z - \frac{3}{2}}$$