Vlastnosti a slovník Z-transformace

Obraz	Předmět
$F(z) = \mathcal{Z}\left[f_n\right] = \sum\limits_{n=0}^{\infty} \frac{f_n}{z^n}$	$f_n = \mathcal{L}^{-1}\left[F(z)\right]$
$\frac{1}{z^k} F(z)$	f_{n-k}
$z^k F(z) - z^k \sum\limits_{m=0}^{k-1} \frac{f_m}{z^m}$	f_{n+k}
$F(\frac{z}{a})$	$a^n f_n \quad (a \neq 0)$
$-zF'(z)$	$n f_n$
$(z-1)F(z) - z f_0$	Δf_n
$(z-1)^k F(z) - z \sum\limits_{m=0}^{k-1} (z-1)^{k-m-1} \Delta^m f_0$	$\Delta^k f_n$
$\frac{F(z)}{z-1}$	$\sum\limits_{k=0}^{n-1} f_k$
$\int\limits_z^{\infty} \frac{F(\xi)}{\xi}\, d\xi$	$\frac{f_n}{n} \quad (n \geq 1)$
$F(z) \cdot G(z)$	$f_n * g_n = \sum\limits_{k=0}^{n} f_k\, g_{n-k}$
1	δ_n
$\frac{z}{z-1}$	1
$\frac{z}{z-a}$	a^n
$\frac{z}{(z-1)^2}$	n
$\frac{az}{(z-a)^2}$	$n\, a^n$
$\frac{z(z+1)}{(z-1)^3}$	n^2
$\frac{z}{z^2+1}$	$\sin n\frac{\pi}{2}$
$\frac{z^2}{z^2+1}$	$\cos n\frac{\pi}{2}$
$\frac{z \sin b}{z^2 - 2z\cos b + 1}$	$\sin bn$
$\frac{z(z-\cos b)}{z^2 - 2z\cos b + 1}$	$\cos bn$
$\frac{az \sin b}{z^2 - 2az\cos b + a^2}$	$a^n \sin bn$
$\frac{z(z-a\cos b)}{z^2 - 2az\cos b + a^2}$	$a^n \cos bn$