

## Formules usuelles.

### Cas généraux.

$DL_n(0)$	$e^x = \sum_{k=0}^n \frac{x^k}{k!} + o(x^n)$
$DL_n(0)$	$\frac{1}{1-x} = \sum_{k=0}^n x^k + o(x^n)$
$DL_n(0)$	$\frac{1}{1+x} = \sum_{k=0}^n (-1)^k x^k + o(x^n)$
$DL_n(0)$	$\ln(1-x) = -\sum_{k=1}^n \frac{x^k}{k} + o(x^n)$
$DL_n(0)$	$\ln(1+x) = \sum_{k=1}^n \frac{(-1)^{k+1}}{k} x^k + o(x^n)$
$DL_{2n+1}(0)$	$\sin(x) = \sum_{k=0}^n \frac{(-1)^k}{(2k+1)!} x^{2k+1} + o(x^{2n+1})$
$DL_{2n}(0)$	$\sin(x) = \sum_{k=0}^{n-1} \frac{(-1)^k}{(2k+1)!} x^{2k+1} + o(x^{2n})$
$DL_{2n+1}(0)$	$\cos(x) = \sum_{k=0}^n \frac{(-1)^k}{(2k)!} x^{2k} + o(x^{2n+1})$
$DL_{2n}(0)$	$\cos(x) = \sum_{k=0}^n \frac{(-1)^k}{(2k)!} x^{2k} + o(x^{2n})$
$DL_{2n+1}(0)$	$sh(x) = \sum_{k=0}^n \frac{x^{2k+1}}{(2k+1)!} + o(x^{2n+1})$
$DL_{2n}(0)$	$sh(x) = \sum_{k=0}^{n-1} \frac{x^{2k+1}}{(2k+1)!} + o(x^{2n})$
$DL_{2n+1}(0)$	$ch(x) = \sum_{k=0}^n \frac{x^{2k}}{(2k)!} + o(x^{2n+1})$
$DL_{2n}(0)$	$ch(x) = \sum_{k=0}^n \frac{x^{2k}}{(2k)!} + o(x^{2n})$
$DL_n(0)$	$(1+x)^\alpha = \sum_{k=0}^n \frac{\alpha(\alpha-1)\dots(\alpha-(k-1))}{(k)!} x^k + o(x^n)$

### Cas particuliers.

$DL_3(0)$	$e^x = 1 + x + \frac{x^2}{2} + \frac{x^3}{6} + o(x^3)$
$DL_3(0)$	$\frac{1}{1-x} = 1 + x + x^2 + x^3 + o(x^3)$
$DL_3(0)$	$\frac{1}{1+x} = 1 - x + x^2 - x^3 + o(x^3)$
$DL_3(0)$	$\ln(1-x) = -x - \frac{x^2}{2} - \frac{x^3}{3} + o(x^3)$
$DL_3(0)$	$\ln(1+x) = x - \frac{x^2}{2} + \frac{x^3}{3} + o(x^3)$
$DL_3(0)$	$\sin(x) = x - \frac{x^3}{3!} + o(x^3)$
$DL_4(0)$	$\sin(x) = x - \frac{x^3}{3!} + o(x^4)$
$DL_3(0)$	$\cos(x) = 1 - \frac{x^2}{2!} + o(x^3)$
$DL_4(0)$	$\cos(x) = 1 - \frac{x^2}{2!} + \frac{x^4}{4!} + o(x^4)$
$DL_3(0)$	$sh(x) = x + \frac{x^3}{3!} + o(x^3)$
$DL_4(0)$	$sh(x) = x + \frac{x^3}{3!} + o(x^4)$
$DL_3(0)$	$ch(x) = 1 + \frac{x^2}{2!} + o(x^3)$
$DL_4(0)$	$ch(x) = 1 + \frac{x^2}{2!} + \frac{x^4}{4!} + o(x^4)$
$DL_2(0)$	$(1+x)^\alpha = 1 + \alpha x + \frac{\alpha(\alpha-1)}{2} x^2 + o(x^2)$
$DL_3(0)$	$\tan(x) = x + \frac{x^3}{3} + o(x^3)$
$DL_2(0)$	$\sqrt{1+x} = 1 + \frac{x}{2} - \frac{x^2}{8} + o(x^2)$