$$e^x = 1 + \frac{x}{1!} + \frac{x^2}{2!} + \cdots + \frac{x^n}{n!} + x^n\varepsilon(x) = \sum_{k=0}^{n} \frac{x^k}{k!} + x^n\varepsilon(x)$$

$$\sin(x) = x - \frac{x^3}{3!} + \cdots + (-1)^n \frac{x^{2n+1}}{(2n+1)!} + x^{2n+2}\varepsilon(x) = \sum_{k=0}^{n} (-1)^k \frac{x^{2k+1}}{(2k+1)!} + x^{2n+2}\varepsilon(x)$$

$$\cos(x) = 1 - \frac{x^2}{2!} + \cdots + (-1)^n \frac{x^{2n}}{2n!} + x^{2n+1}\varepsilon(x) = \sum_{k=0}^{n} (-1)^k \frac{x^{2k}}{(2k)!} + x^{2n+1}\varepsilon(x)$$

$$\frac{1}{1-x} = 1 + x + x^2 + \cdots + x^n + x^n\varepsilon(x) = \sum_{k=0}^{n} x^k + x^n\varepsilon(x)$$

$$(1+x)^a = 1 + ax + \frac{a(a-1)}{2!}x^2 + \frac{a(a-1)(a-2)}{3!}x^3 + \cdots + \frac{a(a-1)\cdots(a-n+1)}{n!}x^n + x^n\varepsilon(x)$$

$$\sqrt{1+x} = 1 + \frac{1}{2}x - \frac{1}{8}x^2 + x^2\varepsilon(x)$$

$$\tan(x) = x + \frac{x^3}{3} + \frac{2}{15}x^5 + x^6\varepsilon(x)$$

$$\ln(1+x) = x - \frac{x^2}{2} + \frac{x^3}{3} + \cdots + (-1)^{n+1}\frac{x^n}{n} + x^n\varepsilon(x) = \sum_{k=1}^{n} (-1)^{k+1} \frac{x^k}{k} + x^n\varepsilon(x)$$

$$\arctan(x) = x - \frac{x^3}{3} + \frac{x^5}{5} + \cdots (-1)^n \frac{x^{2n+1}}{2n+1} + x^{2n+2}\varepsilon(x) = \sum_{k=0}^{n} (-1)^k \frac{x^{2k+1}}{2k+1} + x^{2n+2}\varepsilon(x)$$

$\lim\limits_{x\to+\infty} \frac{\ln(x)}{x} =$		Autrement dit : $\ln(x) = \underset{x\to\infty}{o}(x)$
$\forall(\alpha,\beta) \in (\mathbb{R}^{+*})^2,\ \lim\limits_{x\to+\infty} \frac{(\ln(x))^\alpha}{x^\beta} =$ $\forall(\alpha,\beta) \in (\mathbb{R}^{+*})^2,\ \lim\limits_{x\to 0^+} x^\beta \times \lvert\ln(x)\rvert^\alpha =$		Autrement dit : $(\ln(x))^\alpha = \underset{x\to\infty}{o}\left(x^\beta\right)$ Autrement dit : $\lvert\ln(x)\rvert^\alpha = \underset{x\to 0^+}{o}\left(\frac{1}{x^\beta}\right)$
$\forall a \in]1,+\infty[,\ \forall \alpha \in \mathbb{R},\ \lim\limits_{x\to+\infty} \frac{a^x}{x^\alpha} =$ $\forall a \in]1,+\infty[,\ \forall \alpha \in \mathbb{R},\ \lim\limits_{x\to-\infty} a^x \lvert x\rvert^\alpha =$		Autrement dit : $x^\alpha = \underset{x\to\infty}{o}(a^x)$ Autrement dit : $a^x = \underset{x\to-\infty}{o}\left(\frac{1}{\lvert x\rvert^\alpha}\right)$
$\sin(x) \underset{x\to 0}{\sim} x$	$\tan(x) \underset{x\to 0}{\sim} x$	$1-\cos(x) \underset{x\to 0}{\sim} \frac{x^2}{2}$
	$e^x - 1 \underset{x\to 0}{\sim} x$	
$(1+x)^a - 1 \underset{x\to 0}{\sim} ax$ si $a \neq 0$.		Pour $n = \frac{1}{2}$, on obtient donc : $\sqrt{1+x} - 1 \underset{x\to 0}{\sim} \frac{1}{2}x$
$\ln(1+x) \underset{x\to 0}{\sim} x$		ce qui s'écrit aussi : $\ln(u) \underset{u\to 1}{\sim} u - 1$