

LIMITI NOTEVOLI

PROF. RE E. MODICA

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Funzioni goniometriche	
$\lim_{x \rightarrow 0} \frac{\sin x}{x} = 1$	$\lim_{x \rightarrow 0} \frac{\tan x}{x} = 1$
$\lim_{x \rightarrow 0} \frac{1 - \cos x}{x} = 0$	$\lim_{x \rightarrow 0} \frac{\arcsin x}{x} = 1$
$\lim_{x \rightarrow 0} \frac{1 - \cos x}{x^2} = \frac{1}{2}$	$\lim_{x \rightarrow 0} \frac{\arctan x}{x} = 1$
$\lim_{x \rightarrow 0} \frac{\sin mx}{\sin nx} = \frac{m}{n}$	$\lim_{x \rightarrow 0} \frac{(\arccos x)^2}{1 - x} = 2$
Funzioni esponenziali e logaritmiche	
$\lim_{x \rightarrow \infty} \left(1 + \frac{1}{x}\right)^x = e$	$\lim_{x \rightarrow 0} (1 + x)^{\frac{1}{x}} = e$
$\lim_{x \rightarrow 0} \frac{\log_a(1 + x)}{x} = \log_a e$	$\lim_{x \rightarrow 0} \frac{\ln(1 + x)}{x} = 1$
$\lim_{x \rightarrow 0} \frac{a^x - 1}{x} = \ln a$	$\lim_{x \rightarrow 0} \frac{e^x - 1}{x} = 1$
$\lim_{x \rightarrow 0} \frac{(1 + x)^k - 1}{x} = k$	$\lim_{x \rightarrow \infty} \frac{x^n}{a^x} = 0 \quad (a > 0)$
$\lim_{x \rightarrow \infty} \frac{1}{1 + a^x} = \begin{cases} 1 & \text{se } a < 1 \\ \frac{1}{2} & \text{se } a = 1 \\ 0 & \text{se } a > 1 \end{cases}$	