

TABELLA DEI LIMITI NOTEVOLI

esponenziali e logaritmici	goniometrici
1) $\lim_{x \rightarrow +\infty} \left(1 + \frac{1}{x}\right)^x = e$	1) $\lim_{x \rightarrow 0} \frac{\text{sen } x}{x} = 1$
2) $\lim_{x \rightarrow -\infty} \left(1 + \frac{1}{x}\right)^x = e$	2) $\lim_{x \rightarrow 0} \frac{\text{sen } ax}{bx} = \frac{a}{b}$
3) $\lim_{x \rightarrow +\infty} \left(1 + \frac{a}{x}\right)^x = e^a$	3) $\lim_{x \rightarrow 0} \frac{\text{tg } x}{x} = 1$
4) $\lim_{x \rightarrow +\infty} \left(1 + \frac{a}{x}\right)^{nx} = e^{na}$	4) $\lim_{x \rightarrow 0} \frac{\text{tg } ax}{bx} = \frac{a}{b}$
5) $\lim_{x \rightarrow -\infty} \left(1 - \frac{1}{x}\right)^x = \frac{1}{e}$	5) $\lim_{x \rightarrow 0} \frac{1 - \cos x}{x} = 0$
6) $\lim_{x \rightarrow 0} (1 + ax)^{\frac{1}{x}} = e^a$	6) $\lim_{x \rightarrow 0} \frac{1 - \cos x}{x^2} = \frac{1}{2}$
7) $\lim_{x \rightarrow 0} \text{lg}_a (1+x)^{\frac{1}{x}} = \frac{1}{\text{lg}_e a}$	7) $\lim_{x \rightarrow 0} \frac{\text{arcsen } x}{x} = 1$
8) $\lim_{x \rightarrow 0} \frac{\text{lg}_a (1+x)}{x} = \text{lg}_a e = \frac{1}{\ln a}$	8) $\lim_{x \rightarrow 0} \frac{\text{arcsen } ax}{bx} = \frac{a}{b}$
9) $\lim_{x \rightarrow 0} \frac{a^x - 1}{x} = \ln a$	9) $\lim_{x \rightarrow 0} \frac{\text{arctg } x}{x} = 1$
10) $\lim_{x \rightarrow 0} \frac{(1+x)^a - 1}{x} = a$	10) $\lim_{x \rightarrow 0} \frac{\text{arctg } ax}{bx} = \frac{a}{b}$
11) $\lim_{x \rightarrow 0} \frac{(1+x)^a - 1}{ax} = 1$	11) $\lim_{x \rightarrow 0} \frac{\text{senh } x}{x} = 1$
12) $\lim_{x \rightarrow 0} x^r \text{lg}_a x = 0 \quad \forall a \in R^+ - \{1\}, \forall r \in R^+$	12) $\lim_{x \rightarrow 0} \frac{\text{settsenh } x}{x} = 1$
13) $\lim_{x \rightarrow 0} \frac{\text{lg}_a x}{x^r} = 0 \quad \forall a \in R^+ - \{1\}, \forall r \in R^+$	13) $\lim_{x \rightarrow 0} \frac{\text{tgh } x}{x} = 1$
14) $\lim_{x \rightarrow +\infty} x^r a^x = \lim_{x \rightarrow +\infty} a^x \quad \forall a \in R^+ - \{1\}, \forall r \in R^+$	14) $\lim_{x \rightarrow 0} \frac{\text{settgh } x}{x} = 1$
15) $\lim_{x \rightarrow -\infty} x ^r a^x = \lim_{x \rightarrow -\infty} a^x \quad \forall a \in R^+ - \{1\}, \forall r \in R^+$	15) $\lim_{x \rightarrow 0} \frac{x - \text{sen } x}{x^3} = \frac{1}{6}$
16) $\lim_{x \rightarrow +\infty} \frac{e^x}{x^r} = \lim_{x \rightarrow +\infty} a^x \quad \forall r \in R^+$	16) $\lim_{x \rightarrow 0} \frac{x - \text{arctg } x}{x^3} = \frac{1}{3}$
17) $\lim_{x \rightarrow +\infty} \frac{x^r}{e^x} = \lim_{x \rightarrow +\infty} a^x \quad \forall r \in R^+$	
18) $\lim_{x \rightarrow -\infty} e^x x^r = 0 \quad \forall r \in R^+$	