Alcuni limiti notevoli

$$\lim_{x\to 0^{\pm}} \frac{\sin x}{x} = 1$$

$$\lim_{x\to 0^{\pm}} \frac{1-\cos x}{x^2} = \frac{1}{2}$$

$$\lim_{x\to 0^{\pm}} \frac{\log_a(1+x)}{x} = \log_a(e), \quad a>0 \ \text{ e } \ a\neq 1 \quad se \ \ a=e \Rightarrow \lim_{x\to 0^{\pm}} \frac{\ln(1+x)}{x} = 1$$

$$\lim_{x\to 0^{\pm}} \frac{a^x-1}{x} = \ln a, \quad a>0 \ \text{ e } \ a\neq 1 \quad se \ \ a=e \Rightarrow \lim_{x\to 0^{\pm}} \frac{e^x-1}{x} = 1$$

$$\lim_{x\to \pm\infty} \left(1+\frac{1}{x}\right)^x = e$$