LIMITI

$\lim_{x\to-\infty}\frac{x^4+2x^3-3}{2x^4-3x^2+x}$	$\frac{1}{2}$	$\lim_{x\to-\infty}\frac{x^4+2x^3-3}{-3x^2+x}$	$-\infty$
$\lim_{x\to-\infty}\frac{2x^3-3}{2x^4-3x^2+x}$	0	$\lim_{x\to+\infty}\frac{ln^2x+e^{3x}+\sqrt{x}}{e^{-5x}+x^4+lnx^x}$	$+\infty$
$\lim_{x\to-\infty}\frac{\sqrt{x^2-1}+1-x}{x+1}$	-2	$\lim_{x\to-1}\frac{2-5x-7x^2}{5x^2-2x-7}$	$-\frac{3}{4}$
$\lim_{x\to0^-}\frac{e^{\frac{1}{x}}-1}{e^{-x}-1}$	$-\infty$	$\lim_{x\to1}\frac{x^4-2x^2+1}{x^4-2x^3+2x-1}$	$\nexists$
$\lim_{x\to2}\frac{\sqrt{x^2+3x-1}-3}{\sqrt{x^2-3x+6}-x}$	$-\frac{14}{9}$	$\lim_{x\to0^+}\frac{ln^2\sqrt{x}-lnx^2}{ln^2x+lnx}$	$\frac{1}{4}$
$\lim_{x\to\pi}\frac{sinx}{\pi-x}$	1	$\lim_{x\to+\infty}\left(\sqrt{\frac{x}{x+1}}\right)^x$	$\sqrt{\frac{1}{e}}$
$\lim_{x\to-2}\frac{3x^3+11x^2+8x-4}{x^3+x^2-8x-12}$	$\frac{7}{5}$	$\lim_{x\to+\infty} sinx\ cos\frac{1}{x}$	$\nexists$
$\lim_{x\to+\infty}\left(lnx-ln(x+1)\right)$	0	$\lim_{x\to-\infty}\left(\frac{x+4}{4x+1}\right)^x$	$+\infty$
$\lim_{x\to+\infty}\frac{(2x)^x}{x^{2x}}$	0	$\lim_{x\to2}\frac{x^4-6x^3+9x^2+4x-12}{x^4-2x^3-7x^2+20x-12}$	-3
$\lim_{x\to+\infty}\frac{e^x-\pi^{-x}}{e^{-x}+\pi^x}$	0	$\lim_{x\to0^-}\frac{xarctan\frac{1}{x}}{1-e^{-x}}$	$-\frac{\pi}{2}$
$\lim_{x\to0^+} x^{ln\sqrt{x}}$	$+\infty$	$\lim_{x\to+\infty} xln\left(\frac{x-2}{x+2}\right)$	-4
$\lim_{x\to-\infty} sin\frac{1}{x}\ cosx$	0	$\lim_{x\to+\infty}(ln10^x+loge^{-x})$	$+\infty$
$\lim_{x\to1}\frac{sin(\pi x)}{lnx}$	$-\pi$	$\lim_{x\to0}\frac{1}{x}ln\sqrt{\frac{1+x}{1-x}}$	1
$\lim_{x\to0^+}\left(\frac{1}{\sqrt{x}}-\frac{1}{tanx}\right)$	$-\infty$	$\lim_{x\to-\infty} x\left(e^{\frac{2+3x}{1+x}}-e^3\right)$	$-e^3$
$\lim_{x\to0}\frac{cos3x-cos5x}{x^2}$	8	$\lim_{x\to+\infty}\frac{ln^2x-x}{\pi^{-2x}-e^{\sqrt{2}}}$	$+\infty$
$\lim_{x\to\frac{\pi}{2}}(sinx)^{\frac{1}{\left(x-\frac{\pi}{2}\right)^2}}$	$\frac{1}{\sqrt{e}}$	$\lim_{x\to+\infty}\left(\sqrt{e^{2x}-2e^x}-e^x\right)$	-1

Determinare per quali valori del parametro reale k si ha

$$\lim_{x\to-\infty}\sqrt{x+x^2}\left(\sqrt{x^2-k}+x\right)=2 \qquad k=-4$$

Tracciare nel piano xOy il luogo dei punti $P(x,y)$ tali che assuma valore finito $\lim_{t\to-\infty}\frac{(x^2-4+y)t^3+2t^2+yt-x}{(x^2+y^4+1)t^2-x^3t+y}$

Tracciare, nel piano xOy, il luogo geometrico dei punti $P(x,y)$ per i quali

$$\lim_{z\to+\infty}\frac{(x^2+y^2-4)z^3-2yz^2+3xz-xy}{(x^2+y^2+4)z^2+1}=-\infty$$

$$\lim_{x\to0}\frac{arcsinx-tanx}{sinx-arctanx} \qquad -1$$

$$\lim_{x\to0}\frac{e^{x^2}-1-cos^2x+cos(x^2)}{2ln\left(1-\frac{x}{2}\right)+arctanx} \qquad -8$$

$$\lim_{x\to0}\frac{e^{-x^2}-cosx}{sin^2x-x^n}\ ,\ \ n\in\mathbb{N}^+ \qquad \begin{cases}0 & n=1\\ -\infty & n=2\\ -\frac{1}{2} & n>2\end{cases}$$

$$\lim_{x\to0}\frac{ln(1+x)-sinx-cosx+1}{\sqrt{1+2x}-e^x+x^2} \qquad \frac{3}{2}$$

$$\lim_{x\to0}\frac{e^{x^2}-cosx^2-x^2}{x^2ln(1-2x^2)} \qquad -\frac{1}{2}$$

$$\lim_{x\to0^+}x^k\left(\frac{sin2x}{1+x^2}-2x\right)\ ,\ \ k\in\mathbb{R} \qquad \begin{cases}0 & k>-3\\ -\frac{10}{3} & k=-3\\ -\infty & k<-3\end{cases}$$

$$\lim_{x\to1^+}\frac{cos(\sqrt{x}-1)-e^{x-1}}{\ln x} \qquad -1$$

$$\lim_{x\to2^+}\frac{e^{x-2}-x+1}{x^2sin^2\left(1-\frac{2}{x}\right)} \qquad \frac{1}{2}$$

$$\lim_{x\to0}\frac{1}{x^4}\left(e^{x^2}-cosx-\frac{3}{2}x^2\right) \qquad \frac{11}{24}$$

$$\lim_{x\to0}\frac{2ln(cosx)+x^2}{5x^4} \qquad -\frac{1}{30}$$

$$\lim_{x\to0}\frac{1}{sin^4x}\left(\frac{1}{\sqrt{cos2x}}-e^{x^2}\right) \qquad \frac{2}{3}$$

$$\lim_{x\to0}\frac{e^x\sqrt{1+x}-1-\frac{3}{2}x}{x\ sinx\ cosx^2} \qquad \frac{7}{8}$$

$$\lim_{x\to0}\frac{xsinx+\left(1-e^{x^2}\right)}{xsinx\left(1-e^{x^2}\right)} \qquad \frac{2}{3}$$

$$\lim_{x\to0}\frac{1}{x^2}\left(\frac{sinx}{x}-\frac{x}{sinx}\right) \qquad -\frac{1}{3}$$