

Commento a pag L19

Grafico di  $\arctan x$

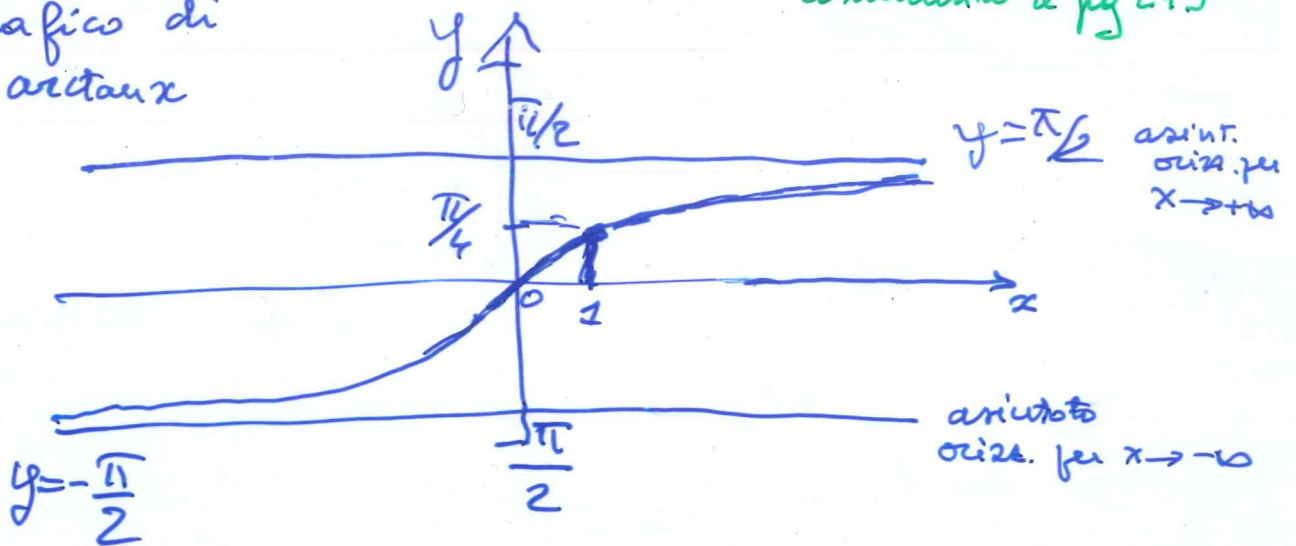
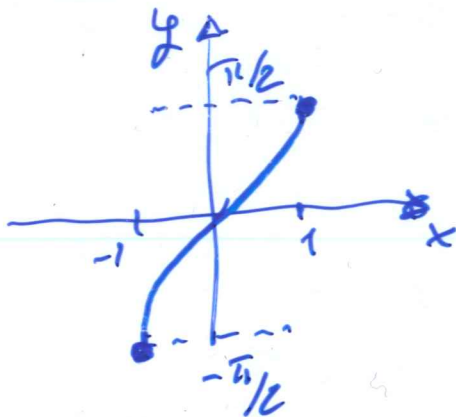


Grafico di  $\arcsin x$ : è continua su  $[-1, 1]$ , quindi:



$$\lim_{x \rightarrow -1^+} \arcsin x = -\frac{\pi}{2}$$

$$\lim_{x \rightarrow 1^-} \arcsin x = \frac{\pi}{2}$$

Ho visto che

$$\lim_{x \rightarrow +\infty} \frac{\ln x}{x^\alpha} = 0$$

ma anche:

$$\lim_{x \rightarrow +\infty} \frac{(\ln x)^{10^{1000000}}}{x^{1/10^{1000000}}} = 0$$

Commento a pag L20

$$\left. \begin{aligned} \beta &= 10^{10^6} \\ \alpha &= 10^{-10^6} \end{aligned} \right\} \frac{\alpha}{\beta} = 10^{-2 \cdot 10^6}$$

$$\lim_{x \rightarrow +\infty} \frac{(\ln x)^\beta}{x^\alpha} = \lim_{x \rightarrow +\infty} \left( \frac{\ln x}{x^{\alpha/\beta}} \right)^\beta = 0^\beta = 0$$

$$\begin{aligned} \lim_{x \rightarrow -\infty} \sqrt{x^2 - 2x} + x &= \lim_{x \rightarrow -\infty} \frac{\cancel{x^2} - 2x - \cancel{x^2}}{\sqrt{x^2 - 2x} - x} = \\ &= \lim_{x \rightarrow -\infty} \frac{-2x}{|x| - x} = \lim_{x \rightarrow -\infty} \frac{-2x}{-x - x} = 1 \end{aligned}$$

Risoluzione diretta del limite in fondo a pag L21