

## Scheda sui limiti

4<sup>a</sup>C Scientifico 20/05/2022

Calcolare i seguenti limiti.

- Esercizio 1.  $\lim_{x \rightarrow -\infty} \log_{2/5}(3-x) - \infty$   $\lim_{x \rightarrow 3^-} \log_{2/5}(3-x) + \infty$
- Esercizio 2.  $\lim_{x \rightarrow -\infty} \exp(-x^2) 0$   $\lim_{x \rightarrow +\infty} \exp(-x^2) 0$
- Esercizio 3.  $\lim_{x \rightarrow (\frac{\pi}{2})^-} \exp(\tan x) + \infty$   $\lim_{x \rightarrow (\frac{\pi}{2})^+} \exp(\tan x) 0$
- Esercizio 4.  $\lim_{x \rightarrow -\infty} \exp(\arctan x) e^{-\pi/2}$   $\lim_{x \rightarrow +\infty} \exp(\arctan x) e^{\pi/2}$
- Esercizio 5.  $\lim_{x \rightarrow -\infty} \arctan(\exp(x)) 0$   $\lim_{x \rightarrow +\infty} \arctan(\exp(x)) \pi/2$
- Esercizio 6.  $\lim_{x \rightarrow 0^+} \ln(\arctan x) - \infty$   $\lim_{x \rightarrow +\infty} \ln(\arctan x) \ln(\pi/2)$
- Esercizio 7.  $\lim_{x \rightarrow 0^+} \arctan(\ln(x)) - \pi/2$   $\lim_{x \rightarrow +\infty} \arctan(\ln(x)) \pi/2$
- Esercizio 8.  $\lim_{x \rightarrow 0^-} \arctan\left(\frac{1}{\sin x}\right) - \pi/2$   $\lim_{x \rightarrow \pi^-} \arctan\left(\frac{1}{\sin x}\right) \pi/2$
- Esercizio 9.  $\lim_{x \rightarrow 0^+} \ln\left(\frac{1}{\sin x}\right) + \infty$   $\lim_{x \rightarrow \pi^-} \ln\left(\frac{1}{\sin x}\right) + \infty$
- Esercizio 10.  $\lim_{x \rightarrow 0^+} \log_{1/4}\left(\frac{1}{\sin x}\right) - \infty$   $\lim_{x \rightarrow \pi^-} \log_{1/4}\left(\frac{1}{\sin x}\right) - \infty$
- Esercizio 11.  $\lim_{x \rightarrow 0^-} \exp\left(\frac{1}{\sin x}\right) 0$   $\lim_{x \rightarrow \pi^-} \exp\left(\frac{1}{\sin x}\right) + \infty$
- Esercizio 12.  $\lim_{x \rightarrow 0^-} \left(\frac{3}{4}\right)^{1/\sin x} + \infty$   $\lim_{x \rightarrow \pi^-} \left(\frac{3}{4}\right)^{1/\sin x} 0$
- Esercizio 13.  $\lim_{x \rightarrow -\infty} \ln\left(\frac{\pi}{2} - \arctan x\right) \ln(\pi)$   $\lim_{x \rightarrow +\infty} \ln\left(\frac{\pi}{2} - \arctan x\right) - \infty$
- Esercizio 14.  $\lim_{x \rightarrow 0^+} \exp(1 + |\ln x|) + \infty$   $\lim_{x \rightarrow +\infty} \exp(1 + |\ln x|) + \infty$
- Esercizio 15.  $\lim_{x \rightarrow 0^+} \ln(1 + |\ln x|) + \infty$   $\lim_{x \rightarrow +\infty} \ln(1 + |\ln x|) + \infty$
- Esercizio 16.  $\lim_{x \rightarrow 0^-} \ln(1 - \exp(x)) - \infty$   $\lim_{x \rightarrow -\infty} \ln(1 - \exp(x)) 0$
- Esercizio 17.  $\lim_{x \rightarrow (-6\pi)^-} \log_{1/3}(1 - \cos x) + \infty$   $\lim_{x \rightarrow 0^+} \log_{1/3}(1 - \cos x) + \infty$
- Esercizio 18.  $\lim_{x \rightarrow 6^-} -2 \exp(\log_{3/4}(6-x)) - \infty$   $\lim_{x \rightarrow 5^-} -2 \exp\left(\frac{1}{\log_{3/4}(6-x)}\right) 0$