

Analisi Matematica 1 (canale A-K)

A.A. 2021-2022

ESERCITAZIONE 10 DEL 23 NOVEMBRE 2021

1. Calcolare i seguenti limiti

$$\lim_{x \rightarrow 1} \frac{x-1}{x+2} e^{\frac{1}{1-x^2}}$$

$$\lim_{x \rightarrow 0} \frac{\tan(2x)[1 - \cos(5x)]}{(\sin x - x^3)^3}$$

$$\lim_{x \rightarrow -\infty} \frac{e^{-x} \sin[e^x \sin(x^3)]}{\log(1-x)}$$

$$\lim_{x \rightarrow +\infty} \left(\frac{x^4}{\sqrt{2+3x^3}} \right)^{\frac{1}{\log x}}$$

$$\lim_{x \rightarrow \frac{\pi}{3}} \frac{(1-2\cos x)^2}{(x-\frac{\pi}{3}) \tan x \sin(3x)}$$

$$\lim_{x \rightarrow 1} \frac{\log x}{e^{\sqrt{x}} - e}$$

$$\lim_{n \rightarrow +\infty} n^4 \left(\cos\left(\frac{1}{n^2+1}\right) - 1 \right)$$

$$\lim_{n \rightarrow +\infty} \log n \sin \left(\frac{n+\pi}{\sqrt{1+2\log^2 n!}} \right)$$