Esercizi

1. $\lim_{x \to +\infty} \frac{e^x}{x^3}$, $\lim_{x \to +\infty} \frac{2^x}{\sqrt{x}}$, $\lim_{x \to +\infty} \frac{a^x}{x^\alpha}$

2. $\lim_{x \to 0} x \log x = 0$

3. $\lim_{x \to +\infty} x \log \frac{x+1}{x-1} = 2$

4. $\lim_{x \to 0^+} \frac{e^{-1/x}}{x} = 0$

5. $\lim_{x \to 0^+} \frac{x - \operatorname{tg} x}{x - \operatorname{sen} x} = -2$

6. $\lim_{x \to \pi/2} \frac{2}{\cos^2 x} + \frac{1}{\log \operatorname{sen} x} = 1$

7. $\lim_{x \to 0} \left(\frac{e^x - 1}{x} \right)^{1/x} = \sqrt{e}$

8. $\lim_{x \to 0^+} \frac{x \operatorname{tg} x + \log \cos x}{x - \operatorname{sen} x \cos x} = +\infty$

9. $\lim_{x \to +\infty} \frac{x-1}{x+1} \sqrt{x^2 - 4} - x = -2$

10. $\lim_{x \to \pi/2^-} \left(\frac{1}{\sqrt{(\pi^2/4) - x^2}} \right)^{1/\log \cos x} = 0$