

### Esercizi su limiti di successioni - 3

Calcolare i seguenti limiti di successioni.

1.  $\lim_{n \rightarrow +\infty} \sqrt[n]{2}$

2.  $\lim_{n \rightarrow +\infty} \sqrt[n]{\frac{4n+1}{n+2}}$

3.  $\lim_{n \rightarrow +\infty} \left( \frac{n+2}{n-3} \right)^{1/\log n}$

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

5.  $\lim_{n \rightarrow +\infty} \left( 1 + \frac{1}{n} \right)^{n+\sqrt{n}}$

6.  $\lim_{n \rightarrow +\infty} \left( \sqrt{1 + \frac{3}{n}} - 1 \right)^n$

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

8.  $\lim_{n \rightarrow +\infty} \left( \frac{n-2}{n+2} \right)^n$

9.  $\lim_{n \rightarrow +\infty} \left( \frac{\sqrt{n+1}}{\sqrt{n}+1} \right)^n$

10.  $\lim_{n \rightarrow +\infty} \left( 1 + \frac{1}{n} \right)^{n+1} \cdot \left( 1 - \frac{3}{n+1} \right)^n$

11.  $\lim_{n \rightarrow +\infty} \left( 1 + \frac{1}{n} \right)^{\sqrt{n}} \cdot \left( 1 + \frac{1}{\sqrt{n}} \right)^n$

12.  $\lim_{n \rightarrow +\infty} \left( \frac{2n+1}{2n-1} \right)^{n+\sqrt{n}}$

13.  $\lim_{n \rightarrow +\infty} \sqrt[n]{n}$

14.  $\lim_{n \rightarrow +\infty} \sqrt[n]{\frac{n}{n^2+1}}$

15.  $\lim_{n \rightarrow +\infty} \sqrt[n]{\frac{4n+1}{n+\sqrt{n}} - 3}$

16.  $\lim_{n \rightarrow +\infty} \sqrt[n]{n+3n^2}$

17.  $\lim_{n \rightarrow +\infty} \sqrt[n]{\sqrt{1 + \frac{3}{n}} - 1}$

18.  $\lim_{n \rightarrow +\infty} \left( 1 + \frac{3}{n-2} \right)^{n^2}$

19.  $\lim_{n \rightarrow +\infty} \frac{n^{n+1}}{(n+1)^n}$

20.  $\lim_{n \rightarrow +\infty} \frac{(\sqrt{n})^n}{n^{\sqrt{n}}}$

21.  $\lim_{n \rightarrow +\infty} \sqrt[n]{\log n}$

22.  $\lim_{n \rightarrow +\infty} \frac{3}{\sqrt{4^n+n^3}} \left( 2 - \frac{1}{n} \right)^n$

23.  $\lim_{n \rightarrow +\infty} \left( \frac{n^2+3}{n^2-2} \right)^{\log n}$

24.  $\lim_{n \rightarrow +\infty} \frac{(\log n)^n}{n}$

25.  $\lim_{n \rightarrow +\infty} \frac{(\log n)^{\log n}}{n^2+1}$