

Determinare il valore dei seguenti limiti

1. $\lim_{x \rightarrow +\infty} \left(\sqrt[5]{x^3 - 4x} - \sqrt[6]{x^3 + 4x^2} \right)$
2. $\lim_{x \rightarrow +\infty} \left(\sqrt[3]{x^8 - 6x^5} - \sqrt[4]{x^3 - 2x^2 + 6x + 1} \right)$
3. $\lim_{x \rightarrow +\infty} \left(\sqrt[8]{x^3 + 5x^2 + 6x - 3} - \sqrt[7]{8x^3 - 2x^2 - 5x + 1} \right)$
4. $\lim_{x \rightarrow +\infty} \left(\sqrt[7]{x^9 - x^7 + 6x^5 - 3x + 6} - \sqrt[6]{4x^2 - 3x + 1} + 7x \right)$
5. $\lim_{x \rightarrow +\infty} \frac{\sqrt[5]{x^7 + 3x^5 - 3x^2 + 6x}}{\sqrt[3]{x^2 - 5x + 1} + 10x}$
6. $\lim_{x \rightarrow +\infty} \frac{\sqrt[3]{x^5 - 3x^2}}{\sqrt[5]{x^2 - 5x + 1}}$
7. $\lim_{x \rightarrow +\infty} \left(\log(6x^5 + 3x) + e^{\sqrt{3x^6 + 2}} \right)$
8. $\lim_{x \rightarrow +\infty} \frac{\log(5x^3 + 3x^2 + x + 8) - e^{\sqrt{3x^4 + 2x^3 + 5x + 6}}}{5x^3 + 7x^2}$
9. $\lim_{x \rightarrow +\infty} \left(\log(2x^4 + 3x^3 + x^2 + 6x + 1) - e^{\frac{\sqrt{3x^4 + 2x^3 + 5x + 6}}{7x^2 + 5x}} \right)$
10. $\lim_{x \rightarrow +\infty} \left(\log(7x^5 + 3x^4 - 6x^2 - 5x + 3) - \sqrt{2x^5 + 8x^3 - 6x + 4} \right)$
11. $\lim_{x \rightarrow +\infty} \left(\frac{\log(3x^5 - 6x^3)}{\sqrt[3]{x^5 - 8x}} - \log(x + 3) \right)$
12. $\lim_{x \rightarrow +\infty} \left(e^{8x - 6\sqrt[4]{x^5}} \log(7x + 1) \right)$
13. $\lim_{x \rightarrow +\infty} \frac{e^{7x - 5\sqrt{x^3}}}{\log(5x^3 + 1)}$
14. $\lim_{x \rightarrow +\infty} \frac{e^{6x + 5\sqrt[3]{x^8 + x}}}{3x^5 + 6x}$

15. $\lim_{x \rightarrow 0} \frac{\operatorname{sen}^3(5x)(e^{3x} - 1)}{x^4}$
16. $\lim_{x \rightarrow 0^+} \left(\log(x^4 + x^2) - \frac{e^{6x^3} - 1}{5x^8 + 6x^4} \right)$
17. $\lim_{x \rightarrow 0^+} (e^{5x+1} - 3x^2 \log(7x))$
18. $\lim_{x \rightarrow 0^+} \left(\frac{e^{8x} - 1}{x^3 + 5x^2} - \log(x^4) \right)$
19. $\lim_{x \rightarrow 0} \left(\log(x^6) \frac{\sqrt{x^2 + 4}}{e^{6x}} \right)$
20. $\lim_{x \rightarrow 0} \frac{e^{3x^4} - 1}{\operatorname{sen}(5x^3)}$
21. $\lim_{x \rightarrow 0} \frac{e^{7x} - 1}{\log(x^5 + 1)}$
22. $\lim_{x \rightarrow 0^+} \frac{e^{3x^2} - 1}{\sqrt[8]{x^5}}$
23. $\lim_{x \rightarrow 0} \frac{\sqrt{x^3 + 5x^2} + \operatorname{sen}(6x^2)}{x^3}$
24. $\lim_{x \rightarrow 0^+} \left(\log(x^4 + x^2) \frac{e^{6x^3} - 1}{5x^8 + 6x^4} \right)$