

Determinare, se esistono, i seguenti limiti:

- (a) $\lim_{n \rightarrow +\infty} (3^n + (17)^n - (18)^n);$
- (b) $\lim_{n \rightarrow +\infty} (7^{n-12} - 5^{an}),$ al variare di $a \in \mathbb{R};$
- (c) $\lim_{x \rightarrow +\infty} \frac{x+1}{x^6 - 7^6};$
- (d) $\lim_{x \rightarrow +\infty} \frac{x^6}{(2x^2 - 1)^3};$
- (e) $\lim_{n \rightarrow +\infty} (7^{n-2} - 7^{n-1});$
- (f) $\lim_{n \rightarrow +\infty} \frac{4^n + 4^{2n-1}}{2^{4n}};$
- (g) $\lim_{x \rightarrow -\infty} \frac{x(1+2x)}{|x|(3x-1)};$
- (h) $\lim_{n \rightarrow +\infty} \frac{2n (11)^n}{1 - 9n};$
- (i) $\lim_{x \rightarrow -\infty} \frac{18x^8 - 7x + 1}{1 - 2x^3};$
- (l) $\lim_{x \rightarrow 0} \frac{1}{x^3|x|};$
- (m) $\lim_{x \rightarrow 0^-} \frac{|x|}{x - x^3};$
- (n) $\lim_{x \rightarrow +\infty} \frac{20x^2 - 10x^5 - \sqrt{3}}{\pi x^5 - 4};$
- (o) $\lim_{x \rightarrow 0} \frac{\sqrt{|x|}}{x};$
- (p) $\lim_{x \rightarrow -\frac{\pi}{2}} \frac{x}{x + \pi/2};$
- (q) $\lim_{x \rightarrow 3} \frac{\sqrt{3} - \sqrt{x}}{3 - x};$
- (r) $\lim_{x \rightarrow 2^-} \frac{\sqrt{3x-2} - 2}{(2-x)^2}.$