

Limiti di funzioni elementari

| FUNZIONI ALGEBRICHE RAZIONALI ELEMENTARI | | |
|--|--|---|
| $f(x) = k$ | | $\lim_{x \rightarrow +\infty} f(x) = k$ $\lim_{x \rightarrow x_0} f(x) = k$ $\lim_{x \rightarrow -\infty} f(x) = k$ |
| $f(x) = x$ | | $\lim_{x \rightarrow +\infty} f(x) = +\infty$ $\lim_{x \rightarrow x_0} f(x) = x_0$ $\lim_{x \rightarrow -\infty} f(x) = -\infty$ |
| $f(x) = x^2$ | | $\lim_{x \rightarrow +\infty} f(x) = +\infty$ $\lim_{x \rightarrow x_0} f(x) = x_0^2$ $\lim_{x \rightarrow -\infty} f(x) = +\infty$ |
| $f(x) = x^3$ | | $\lim_{x \rightarrow +\infty} f(x) = +\infty$ $\lim_{x \rightarrow x_0} f(x) = x_0^3$ $\lim_{x \rightarrow -\infty} f(x) = -\infty$ |

| | | |
|------------------------|-------------------|--|
| $f(x) = x^n$ n pari | | $\lim_{x \rightarrow +\infty} f(x) = +\infty$ $\lim_{x \rightarrow -\infty} f(x) = +\infty$ $\lim_{x \rightarrow x_0} f(x) = x_0^n$ |
| $f(x) = x^n$ n dispari | | $\lim_{x \rightarrow +\infty} f(x) = +\infty$ $\lim_{x \rightarrow -\infty} f(x) = -\infty$ $\lim_{x \rightarrow x_0} f(x) = x_0^n$ |
| $f(x) = \frac{1}{x}$ | | $\lim_{x \rightarrow +\infty} f(x) = 0$ $\lim_{x \rightarrow -\infty} f(x) = 0$ $x_0 \neq 0$ $\lim_{x \rightarrow x_0} f(x) = \frac{1}{x_0}$ $x_0 = 0$ $\lim_{x \rightarrow 0^+} f(x) = +\infty$ $\lim_{x \rightarrow 0^-} f(x) = -\infty$ |
| $f(x) = \frac{1}{x-a}$ | | $\lim_{x \rightarrow +\infty} f(x) = 0$ $\lim_{x \rightarrow -\infty} f(x) = 0$ $x_0 \neq a$ $\lim_{x \rightarrow x_0} f(x) = \frac{1}{x_0}$ $x_0 = a$ $\lim_{x \rightarrow a^+} f(x) = +\infty$ $\lim_{x \rightarrow a^-} f(x) = -\infty$ |
| | Grafico per $a=2$ | |

