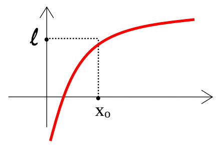
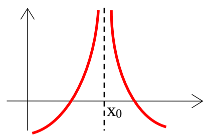
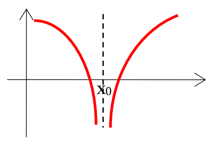
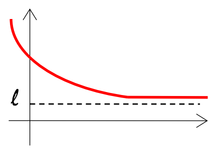
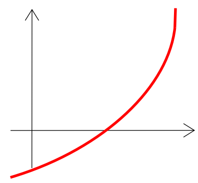
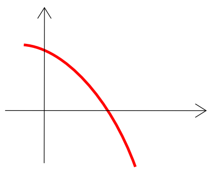
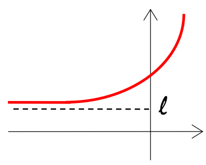
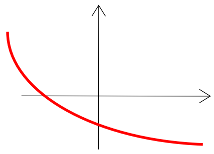
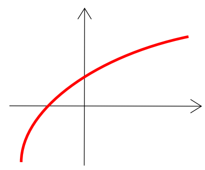
Tutte le definizioni di limite di una funzione

PASSED

Data una funzione $y = f(x)$ sia **D** il suo dominio e sia $\boldsymbol{x_0}$ un punto di accumulazione per il dominio

$\lim_{x \to x_0} f(x) = l$		$\forall\, I_l\ \exists\, I_{x_0}\colon \forall x \in (I_{x_0} \cap D) - \{x_0\} \Rightarrow f(x) \in I_l$ $\forall\, \varepsilon > 0\ \exists\, \delta > 0 : \forall x \in\ D:\ 0 \neq \lvert x - x_0 \rvert < \delta \Rightarrow \lvert f(x) - l \rvert < \varepsilon$ $\forall\, \varepsilon > 0\ \exists\, I_{x_0}:\ \forall x \in (I_{x_0} \cap D) - \{x_0\} \Rightarrow \lvert f(x) - l \rvert < \varepsilon$
$\lim_{x \to x_0} f(x) = +\infty$		$\forall\, I_{+\infty}\ \exists\, I_{x_0} : \forall x \in (I_{x_0} \cap D) - \{x_0\} \Rightarrow f(x) \in I_{+\infty}$ $\forall\, M > 0\ \exists\, \delta > 0 : \forall x \in\ D:\ 0 \neq \lvert x - x_0 \rvert < \delta \Rightarrow f(x) > M$ $\forall\, M > 0\ \exists\, I_{x_0} : \forall x \in (I_{x_0} \cap D) - \{x_0\} \Rightarrow f(x) > M$
$\lim_{x \to x_0} f(x) = -\infty$		$\forall\, I_{-\infty}\ \exists\, I_{x_0} : \forall x \in (I_{x_0} \cap D) - \{x_0\} \Rightarrow f(x) \in I_{-\infty}$ $\forall\, M > 0\ \exists\, \delta > 0 : \forall x \in\ D:\ 0 \neq \lvert x - x_0 \rvert < \delta \Rightarrow f(x) < -M$ $\forall\, M > 0\ \exists\, I_{x_0} : \forall x \in (I_{x_0} \cap D) - \{x_0\} \Rightarrow f(x) < -M$
$\lim_{x \to +\infty} f(x) = l$		$\forall\, I_l\ \exists\, I_{(+\infty)} : \forall x \in (I_{(+\infty)} \cap D) \Rightarrow f(x) \in I_l$ $\forall\, \varepsilon > 0\ \exists\, N > 0 : \forall x \in\ D\colon x > N \Rightarrow \lvert f(x) - l \rvert < \varepsilon$ $\forall\, \varepsilon > 0\ \exists\, I_{(+\infty)} : \forall x \in (I_{(+\infty)} \cap D) \Rightarrow \lvert f(x) - l \rvert < \varepsilon$
$\lim_{x \to +\infty} f(x) = +\infty$		$\forall\, I_{(+\infty)}\ \exists I_{(+\infty)} : \forall x \in (I_{(+\infty)} \cap D) \Rightarrow f(x) \in I_{(+\infty)}$ $\forall\, M > 0\ \exists\, N > 0 : \forall x \in D :\ x > N \Rightarrow f(x) > M$ $\forall\, M > 0\ \exists\, I_{(+\infty)} : \forall x \in (I_{(+\infty)} \cap D) \Rightarrow f(x) > M$
$\lim_{x \to +\infty} f(x) = -\infty$		$\forall\, I_{(-\infty)}\ \exists I_{(+\infty)} : \forall x \in (I_{(+\infty)} \cap D) \Rightarrow f(x) \in I_{(-\infty)}$ $\forall\, M > 0\ \exists\, N > 0 : \forall x \in D :\ x > N \Rightarrow f(x) < -M$ $\forall\, M > 0\ \exists\, I_{(+\infty)} : \forall x \in (I_{(+\infty)} \cap D) \Rightarrow f(x) < -M$
$\lim_{x \to -\infty} f(x) = l$		$\forall\, I_l\ \exists\, I_{(-\infty)} : \forall x \in (I_{(-\infty)}\ \cap D) \Rightarrow f(x) \in I_l$ $\forall\, \varepsilon > 0\ \exists\, N > 0 : \forall x \in\ D:\ x < -N \Rightarrow \lvert f(x) - l \rvert < \varepsilon$ $\forall\, \varepsilon > 0\ \exists\, I_{(-\infty)} : \forall x \in (I_{(-\infty)} \cap D) \Rightarrow \lvert f(x) - l \rvert < \varepsilon$
$\lim_{x \to -\infty} f(x) = +\infty$		$\forall\, I_{(+\infty)}\ \exists I_{(-\infty)} : \forall x \in (I_{(-\infty)} \cap D) \Rightarrow f(x) \in I_{(+\infty)}$ $\forall\, M > 0\ \exists\, N > 0 : \forall x \in\ D:\ x < -N \Rightarrow f(x) > M$ $\forall\, M > 0\ \exists\, I_{(-\infty)} : \forall x \in (I_{(-\infty)} \cap D) \Rightarrow f(x) > M$
$\lim_{x \to -\infty} f(x) = -\infty$		$\forall\, I_{(-\infty)}\ \exists I_{(-\infty)} : \forall x \in (I_{(-\infty)} \cap D) \Rightarrow f(x) \in I_{(-\infty)}$ $\forall\, M > 0\ \exists\, N > 0 : \forall x \in\ D:\ x < -N \Rightarrow f(x) < -M$ $\forall\, M > 0\ \exists\, I_{(-\infty)} : \forall x \in (I_{(-\infty)} \cap D) \Rightarrow f(x) < -M$