

Objective: Study and use the formal definition of a limit.

State the formal definition of a limit.

ANSWER:

Let “ f ” be a function defined on an open interval containing “ c ” (except possibly at c) and let “ L ” be a real number. The statement:

$\lim_{x \rightarrow c} f(x) = L$ means that for each $\varepsilon > 0$ there exists a $\delta > 0$ such that if $0 < |x - c| < \delta$ then $|f(x) - L| < \varepsilon$.