Section 5.1 Continuous Functions

Let $A \subseteq \mathbb{R}, f : A \to \mathbb{R}, c \in A$. Then f is <u>continuous at c</u> if $\forall \epsilon > 0, \exists \delta(c, \epsilon) > 0$ such that $|f(x) - f(c)| < \epsilon$ if $|x - c| < \delta$.

Let $f: A \to \mathbb{R}$. If $B \subseteq A$, then f is <u>continuous on B</u> if f is continuous at every point of B.

Sequential Criterion for Continuity $f : A \to \mathbb{R}$ is continuous at $c \in A$ if and only if for every sequence (x_n) in A that converges to c, $(f(x_n))$ converges to f(c).