

Enduring Understandings	Learning Objectives	Essential Knowledge
(Students will understand that...)	(Students will be able to...)	(Students will know that...)
EU 1.1: The concept a limit can be used to understand the behavior of functions.	LO 1.1A(a): Express limits symbolically using correct notation.	EK 1.1A1: Given a function f , the limit $f(x)$ as x approaches c is a real number R if $f(x)$ can be made arbitrarily close to R by taking x sufficiently close to c (but not equal to c). If the limit exists and is a real number, the the common notation is $\lim_{x \rightarrow c} f(x) = R$
	LO 1.1A(b): Interpret limits expressed symbolically.	EK 1.1A2: The concept of a limit can be extended to include one-sided limits, limits at infinity, and infinite limits
	LO 1.1C: Determine limits of functions.	EK 1.1A3: A limit might not exist for some functions at particular values of x . Some ways that the limit might not exist are if the function is unbounded, if the function is oscillating near this value, or if the limit from the left does not equal the limit from the right.
		EK 1.1C1: Limits of sums, differences, products, quotients, and composite functions can be found using basic theorems of limits and algebraic rules.
		EK 1.1C2: The limit of a function may be found by using algebraic manipulation, alternate forms of trigonometric functions, or the squeeze theorem.
		EK 1.1C3: Limits of indeterminate forms $0/0$ and ∞/∞ can be evaluated using L'Hospital's Rule.

EU 1.2: Continuity is a key property of functions that is defined using limits.

LO 1.2A: Analyze functions for intervals of continuity or points of discontinuity.

EK 1.2A1: A function f is continuous at $x = c$ provide that $f(c)$ exists, $\lim_{x \rightarrow c} f(x)$ exists, and $\lim_{x \rightarrow c} f(x) = f(c)$.

EK 1.2A2: Polynomial, rational, power, exponential, logarithmic, and trigonometric functions are continuous at all points in their domains.

EK 1.2A3: Types of discontinuities include removable discontinuities, jump discontinuities, and discontinuities due to vertical asymptotes.

LO 1.2B: Determine the applicability of important calculus theorems using continuity.

EK 1.2B1: Continuity is an essential condition for theorem such as the Intermediate Value Theorem, the ~~Extreme Value Theorem~~, and the ~~Mean Value Theorem~~.