

AP Calculus - Limits

Instructional Focus: EU 1.1 The concept of a limit can be used to understand the behavior of functions.

CCSS & Example	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Estimate limits of functions. (LO 1.1B) 1.1.A	<p>Can extend thinking beyond the standard, including tasks that may involve one of the following:</p> <ul style="list-style-type: none"> • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving 	<p>Find a limit graphically and numerically using proper notation with all of the following:</p> <ul style="list-style-type: none"> • Limits • One sided Limits • Limits at infinity • Infinite limits • Limits that don't exist <p>and interpret the behavior of Functions</p>	<p>Find a limit graphically and numerically using proper notation with four of the following:</p> <ul style="list-style-type: none"> • Limits • One sided Limits • Limits at infinity • Infinite limits • Limits that don't exist <p>and interpret the behavior of Functions</p>	<p>Find a limit graphically and numerically using proper notation with three of the following:</p> <ul style="list-style-type: none"> • Limits • One sided Limits • Limits at infinity • Infinite limits • Limits that don't exist <p>and interpret the behavior of Functions</p>	<p>Little evidence of reasoning or application to solve the problem</p> <p>Does not meet the criteria in a level 1</p>
Determine limits of functions. (LO 1.1C) LO 1.1D)		<p>Determine limits of functions using correct notation with all of the following</p> <ul style="list-style-type: none"> • Algebraic manipulation • Algebraic rules (sum, difference, product, quotients) • Composite Functions • Trig Functions <p>and interpret the behavior of Functions</p>	<p>Determine limits of functions using correct notation with three of the following</p> <ul style="list-style-type: none"> • Algebraic manipulation • Algebraic rules (sum, difference, product, quotients) • Composite Functions • Trig Functions <p>and interpret the behavior of Functions</p>	<p>Determine limits of functions using correct notation with two of the following</p> <ul style="list-style-type: none"> • Algebraic manipulation • Algebraic rules (sum, difference, product, quotients) • Composite Functions • Trig Functions <p>and interpret the behavior of Functions</p>	

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

CCSS & Example	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Analyze functions for intervals of continuity or points of discontinuity. (LO 1.2A) (LO 1.2B) *Assessed in another unit	Can extend thinking beyond the standard, including tasks that may involve one of the following: <ul style="list-style-type: none"> • Designing • Connecting • Synthesizing • Applying 	Do all of the following: <ul style="list-style-type: none"> • Apply continuity in terms of the three part definition • Determine type of discontinuity • Determine if IVT, EVT*, and MVT* are applicable • Identify functions that are continuous in their domain 	Do three of the following: <ul style="list-style-type: none"> • Apply continuity in terms of the three part definition • Determine type of discontinuity • Determine if IVT, EVT*, and MVT* are applicable • Identify functions that are continuous in their domain 	Do two of the following: <ul style="list-style-type: none"> • Apply continuity in terms of the three part definition • Determine type of discontinuity • Determine if IVT, EVT*, and MVT* are applicable • Identify functions that are continuous in their domain 	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Definition of Derivative (2.1A)	<ul style="list-style-type: none"> • Justifying • Critiquing • Analyzing • Creating • Proving 	Apply the definition of derivative using correct notation to algebraically find the derivative of a function in general and at a point.	Apply the definition of derivative using correct notation to algebraically find the derivative of a function in general or at a point.	Use substitution to set up the definition of derivative in general or at a point.	