Limits

Instructional Focus	4 – Mastery	3 – Proficient	2 - Basic	1 – Below Basic	0 – No Evidence
Estimate limits of functions graphically and numerically (LIM-1.A, LIM-1.C, LIM-2.D)		Find a limit graphically and numerically using proper notation with **all** of the following: • Limits • One sided Limits • Limits at infinity • Infinite limits • Limits that don't exist and interpret the behavior of functions **Follows math practices of algebraic computation, precision and reasoning***	Find a limit graphically and numerically using proper notation with **four** of the following: • Limits • One sided Limits • Limits at infinity • Infinite limits • Limits that don't exist and interpret the behavior of functions	Find a limit graphically and numerically using proper notation with **three** of the following: • Limits • One sided Limits • Limits at infinity • Infinite limits • Limits that don't exist and interpret the behavior of functions	
Determine limits of functions algebraically (LIM-1.A, LIM-1.B, LIM-1.D, LIM-1.E)	Can extend thinking beyond the standard, including tasks that may involve one of the following: • Designing • Connecting • Synthesizing • Applying • Justifying • Critiquing • Analyzing • Creating • Proving	Determine limits of functions using correct notation with **all** of the following • Squeeze Theorem • Algebraic manipulation • Algebraic rules (sum, difference, product, quotients) • Composite Functions • Trig Functions and interpret the behavior of Functions **Follows math practices of algebraic computation, precision and reasoning***	Determine limits of functions using correct notation with **three** of the following • Algebraic manipulation • Algebraic rules (sum, difference, product, quotients) • Composite Functions • Trig Functions and interpret the behavior of Functions	Determine limits of functions using correct notation with **two** of the following • Algebraic manipulation • Algebraic rules (sum, difference, product, quotients) • Composite Functions • Trig Functions and interpret the behavior of Functions	Little evidence of reasoning or application to solve the problem Does not meet the criteria in a level 1
Apply concepts of continuity (including the intermediate value theorem) (LIM-2A, FUN-1.A, LIM-2.B, LIM-2.C) *Assessed in another unit		Do all of the following: • 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 **Follows math practices of algebraic computation, precision and reasoning***	Do **three** of the following: • 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: • 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	
Applying the definition of derivative (CHA-1.A, CHA-2.A, CHA-2.B)		Apply the definition of derivative using correct notation to algebraically find the derivative of a function in general **and** at a point **and interpret**. **Follows math practices of algebraic computation, precision and reasoning***	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.	

*Math Practices for AP Calculus include:
- Algebraic processes and computations completed logically and correctly
- Attend to precision graphically, numerically and analytically
- Clearly present reasoning and justification with accurate and precise language