

Understand completely	Need help	AP Calculus Concept Checklist for Derivatives
		1. Understand average rate of change versus instantaneous rate of change.
		2. Use information from a table to estimate the instantaneous rate of change at a given time by using the average rate of change close to the given time.
		3. Definition of derivative (both) Recognize the function and take the derivative by using derivative rules
		4. All derivative rules in general and at a point
		A. Power
		B. Product
		C. Quotient
		PC Composition of functions
		D. Chain
		PC Trig Identities- Double Angle and Pythagorean
		E. Trig
		PC Exponential and Logarithmic rules
		F. Exponential
		G. Logarithmic
		H. \sqrt{x} and $\frac{1}{x}$
		5. Finding the derivative of different types of relationships of $f(x)$ and $g(x)$ and given the values of $f(x)$, $g(x)$ and $f'(x)$ and $g'(x)$
		PC $f(x)$ and $ f(x) $
		6. Non-differentiable points graphically and well-known functions that have them
		7. Match derivative graphs with their original graphs (simple functions)
		8. SVA (Position, Velocity, Acceleration) graphically and algebraically
		9. Find values of variables so that piecewise function is differentiable
		10. Differentiability implies continuity, but continuity does not always imply differentiability.
		PC Find equations of lines
		11. Equation of tangent and normal lines

Graphing Calculator skills that may be addressed in this unit

- Using $\frac{Y1(7) - Y1(4)}{7 - 4}$ to find the slope of the secant line to $f(x)$ that is input into Y1 on the interval (4,7)

	<p>2. Using $\frac{Y1(7) - Y1(x)}{7 - x}$ and TblStart 7 and Δt_{bl} small and look at what the value approaches Make the Δt_{bl} smaller to help discuss what the instantaneous rate of change is at $t=7$</p>
	<p>3. Graph $f(x)$ and $f(x)$ and $f(x)$ to develop an idea of what happens to $f(x)$ when the absolute value is applied to the x and the $f(x)$</p>
	<p>4. Graph $f(x)$ and the tangent line to $f(x)$ at a given point to check the validity of the tangent line found</p>
	<p>5. Graph $f(x)$ and the normal line to $f(x)$ at a given point to check the validity of the tangent line found</p>