AP Calculus AB
Chapter 1 Syllabus⁺

Day	Date	Section	Topic	Assignment
1			Welcome/ "Math Fact or Wishful Thinking"	• Study the LOF! • AP Contract • Parent Information(google form)
2		1.2	Evaluating Limits Numerically and Graphically	• Pg. 72: (1, 3, 17 – 29 odd, 65, 80) • Pg. 84: (11 – 43 eoo)
3		1.3	Evaluating Limits Analytically	• Pg. 84: (55 – 81 odd, 94, 95, 122)
4			Quiz 1.2 & 1.3 1976 AB7/BC6 Continuity and One Sided Limits – *One Sided Limits, Limits with Piecewise Functions, Absolute Value Functions and Greatest Integer Functions*	• Pg. 96: (7-27 odd, 128)
		1.4		
5		1.5/1.6	Infinite Limits & Limits at Infinity 1982 AB 2	• 1.5-1.6 Worksheet
6		1.4	Continuity and One Sided Limits – *Continuity & Intermediate Value Theorem* 1976 AB 2	• Pg. 96: (43, 45, 49, 51, 57, 65, 67, 91, 99, 125-127)
7			Quiz 1.4, 1.5 & 3.5 Ch 1 Review	• Ch 1 Review Worksheet
8			Chapter 1 Test	

* eoo – "Every Other Odd"
* Syllabus subject to change
*Odd Answers can be found at: http://calcchat.com/book/Calculus-for-AP-1e/
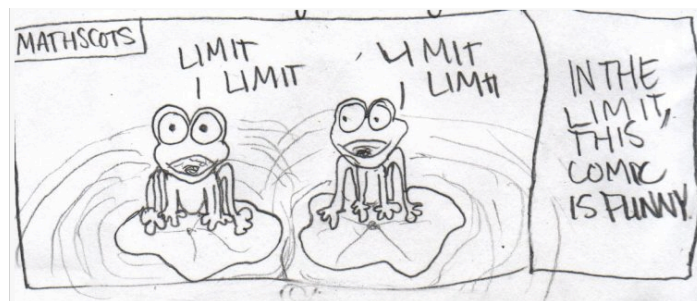

Set A
Find the vertical and horizontal asymptotes (if any). Justify your answers using limits.

a) $f(x) = \dfrac{1}{x^2}$

b) $f(x) = \dfrac{x^2 - 1}{x^2 + 3x - 4}$

c) $f(x) = \dfrac{2x}{\sqrt{x^2 + 1}}$

1976 AB2

Given the two functions f and h such that $f(x) = x^3 - 3x^2 - 4x + 12$ and

$$h(x) = \begin{cases} \dfrac{f(x)}{x-3} & \text{for } x \neq 3 \\ p & \text{for } x = 3. \end{cases}$$

(a) Find all zeros of the function f.

(b) Find the value of p so that the function h is continuous at $x = 3$. Justify your answer.

(c) Using the value of p found in part (b), determine whether h is an even function. Justify your answer.

1976 AB7/BC6

For a differentiable function f, let $f*$ be the function defined by

$$f*(x) = \lim_{h \to 0} \frac{f(x+h) - f(x-h)}{h}.$$

(a) Determine $f*(x)$ for $f(x) = x^2 + x$

(b) Determine $f*(x)$ for $f(x) = \cos x$

1982 AB2

Given that f is the function defined by $f(x) = \dfrac{x^3 - x}{x^3 - 4x}$.

(a) Find the $\lim_{x \to 0} f(x)$.

(b) Find the zeros of f.

(c) Write an equation for each vertical and each horizontal asymptote to the graph of f.

(d) Describe the symmetry of the graph of f.

(e) Using the information found in parts (a), (b), (c), and (d), sketch the graph of f on the axes provided.