

AP Calculus Summer Assignment: 2009-2010

Description: AP Calculus is a challenging course. The AB class approximates a first-semester college Calculus course and also prepares students for the AP Calculus AB test in May, which can be used to earn college credit. Due to the rigor of the material and the nature of mathematics, it is vital that students have a strong background in math and come to each class with all assignments completed. This assignment will review important algebra and precalculus topics and provide an introduction to the concepts and difficulty of the calculus course.

Due Date: The assignment will be collected on the first day that class meets. A test over the material will be given on the second day of class. Failure to complete the assignment will result in a recommendation that the student move into Regular Calculus.

Textbook required: *Calculus* by Larson, Hostetler, Edwards. 7th Edition. Houghton-Mifflin. ISBN: 0-618-14918-X. (Note: Assignment may be modified in the event that a comparable eBook can be found for AP Calculus).

Assignment #1 (to be completed in June): Read pgs. 10-15 (a basic reminder of slope and rate of change). Rate of change is a very important calculus concept which will be studied in greater detail.

- **Pg. 16 #1-6, 9-13, 20-22, 27-30, 33-38, 62-67, 77, 90**
- Key Concepts: Equation of slope, applications of slope, graphical representation of slope, forms of linear equations

Assignment #2 (to be completed in July): Read pgs. 19-26 (a review of functions) and read the online tutorial at <http://tutorial.math.lamar.edu/Classes/Alg/CombineFunctions.aspx>. We will continue to analyze and manipulate functions throughout Calculus.

- **Pg. 27 #2, 4-10 (You may want to look at #7 after 8-10), 11-13, 17, 20, 37, 38, 47, 48, 52-56, 72**
- Key Concepts: Function terms, evaluation, and combinations (particularly composition of functions)

Assignment #3 (to be completed in August): Read Pgs. 42-46 (a preview of calculus) and the online tutorial at <http://teacherweb.com/NC/WECHS/LLay/diff-quot.pdf>. This section will introduce you to a new way of mathematical thinking that calculus requires.

- **Pg. 47 #1-11**
- **Calculate the Difference Quotient: $f(x) = 4x - 2$; $g(x) = x^2 + 3x - 5$; $k(x) = \sqrt{x + 4}$**
- Key Concepts: The Difference Quotient, critical thinking skills

Remember that these 3 assignments will be collected on the **first** day of Calculus class. It is crucial to your success in this course that you complete these assignments in a timely and thoughtful manner and come to the first class prepared to work. I wish you a safe and enjoyable summer. If you have any questions, please do not hesitate to contact me at kbraun@bdhs.org.

Have a nice summer,
Mr. Braun