

AP CALCULUS SUMMER REVIEW PROBLEMS

AP Calculus is a challenging college level course. There is a certain body of knowledge that a student is assumed to have mastered before entering this course. To be properly prepared, a student needs to thoroughly review several concepts from algebra and trigonometry before the first day of calculus class. In preparation for this, the student needs to review the concepts listed below and complete the following problems: writing out the questions, then showing all work leading to the answer. The student should then be prepared to take a qualifying test on the first day of class to show that he is qualified to take the class. All work is taken from the textbook. **Rogawski's Calculus for AP (Early Transcendentals) 2nd Edition**, by Jon Rogawski. WH Freeman and Company, New York. **ISBN-13: 978-1429250740.**

Key Concepts:

Definition of absolute value

Exponents

Rational expressions

Inequalities

Using graphing calculators

Lines

Modeling variation

Functions and graphs of functions

Transformations

Composite functions

One-to-one functions and inverse functions

Exponential functions and logarithmic functions

Trigonometry and the unit circle

Applications of trigonometry

Trigonometric identities and equations

Summer work problems

Page 10 #10-20, 36,37, 44-50,55-60,65-70,74

Page 19#4,6,11,14,15,17,20,24,33,50,51

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Page 31 #1-4, 8-14,23,24

Page 41 #1-5,8,9, 24-50(even)

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Page 56 (Exercises at the top of the page using graphing calculators) #1-8, 21,22