

AP Calculus Summer Packet

There are certain skills that have been taught to you over the previous years that are essential towards your success in AP Calculus. If you do not have these skills, you will find that you will consistently get problems incorrect next year, even though you may understand the calculus concepts. It is frustrating for students when they are tripped up by the algebra or trigonometry and not the calculus. This summer packet is intended for you to retain/review/relearn these topics.

Below is a list of several websites that may help you when you come across a difficult problem. Also, for many of the problem sets there are boxed example problems. If you are unsure of how to attempt these problems, please look online for help, or check the example(s). Feel free to use all resources available to you via internet and textbooks. Please take these problems seriously. As stated before, some students are weak in these skills and have a difficult time succeeding in calculus without them.

Work needs to be shown, when possible, in a neat, legible, organized manner. Do not always rely on your calculator. Half of the AP Calculus exam is taken without the calculator, and the assessments over the course of the year will reflect that.

I believe you will benefit the most from this packet by starting it towards the end of June. You should try to complete a few problems each day, as if it was a daily journal. Do not do all of it now, and do not wait and try to complete it a week before we start school in August. You are more likely to retain the information if you spread it out.

This summer assignment will not be graded when you return. But, mastering the topics in this packet will give you a greater chance of success next year. The answers will be available on my website, www.pascopage.weebly.com on the AP Calculus page. I look forward to working with you next year.

Mr. Pascolini

Helpful Websites

<http://www.mathematicshelpcentral.com/index.html> <http://www.mathtv.com/>
<http://archives.math.utk.edu/visual.calculus/>

For Algebra Topics:

<http://www.purplemath.com/modules/index/htm>

Beginning Algebra Topics:

- Fractional and Negative Exponents
- Equations of Lines
- Solving for Indicated Variable

Intermediate Algebra Topics:

- Domain
- Solving Inequalities
 - Absolute Value
 - Quadratic
- Even and Odd Functions
- Function Transformation
- Factor Theorem (p over q method/Synthetic Division)
- Special Factorization
- Solving Quadratics by Factoring or Quadratic Formula
- Equations of Circles

Advanced Algebra Topics:

- Asymptotes
- Complex Fractions
- Composition of Functions
- Solving Rational Equations
- Logarithms
- Inverse Functions

For Trigonometry Topics

<http://www.themathpage.com/aTrig/trigonometry-of-right-triangles.htm>

- Right Triangle Trigonometry

<http://www.anlyzemath.com/Tutorial-Trigonometric-Equations/Tutorial-Trigonometric-Eq.html>

- Solving Trigonometric Equations
- Trigonometric Identities

For Other Topics:

http://www.mathwords.com/d/difference_quotient.htm

- The Difference Quotient

<http://www.regentsprep.org/Regents/math/ALGEBRA/AS1/RefArRea.htm>

https://www.etap.org/demo/statistics/lesson7/instrutiontutor_last.html

- Area/Geometric Probability