

## Welcome to AB Calculus

Dear students,

Welcome to AP AB Calculus. I am excited to be teaching Calculus this year, seeing a few familiar faces that have been in my classes for Algebra II+ and Math Analysis Plus and meeting new students as well. This will be a fun, interesting and challenging course in which you will learn a lot of mathematics, however mastery of these topics will require hard work and preparation on your part. Be proactive with your learning. Do all of the assigned homework and really focus on understanding and mastery of the concepts. Show your work on all assignments to train yourself for the free response questions on the AP exam. You will be required to not only have an answer, but to also show your work and explain the concept that helps you arrive at your answer. Develop good habits in your work throughout the year. Ask lots of questions and come to tutoring if you are struggling with a concept. Don't be afraid to come to me for help as we work together to prepare for the AP exam in May.



### **WE WILL BE MEETING DURING EARLY AP WEEK!**

- **3<sup>rd</sup> period meets 10:15-11:45 in Room 210 on 8/26 and 8/27 Tuesday and Wednesday**
- **7<sup>th</sup> period meets 1:45 – 3:15 in Room 210 on 8/26 and 8/27 Tuesday and Wednesday**

I have prepared some review materials for you to revisit algebra and precalculus topics as needed.

**Steps 1, 2, 3 and 4 must be completed BEFORE Early AP week.**

### **Summer Assignment**

**Step 1:** Read and highlight the Prerequisites for Calculus Review Packet. These are the essential skills to be successful in calculus. I have always thought that students who struggle, struggle more with the past algebra skills than with the concepts covered in calculus. As Alfred Lord Tennyson stated, "*the past is prelude, the best is yet to come*". So use the review materials to help put you in the best position for future success in calculus. I would also print out and memorize the unit circle and trig functions as well as basic parent graphs and characteristics from Algebra II before class begins.

**Step 2:** Print out the three "Gateway Tests". Work all problems on your own lined paper in PENCIL. Copy the problem as given, show all work clearly and concisely and/or explain your reasoning for how you arrived at your answer. NO CREDIT WILL BE GIVEN FOR "ANSWERS ONLY". The reason for this is that grading on the AP awards points for each part of the problem. An FRQ (Free response question) is typically worth 9 points, only 1 of which is for the actual answer. The rest is awarded for clear work and explanation of methods used to arrive at that answer. For each test, staple the printed test to the front of your work.

**Step 3:** After completing the Gateway Tests, print out the file entitled “Gateway Answers”. Check and correct your work using a red or blue pen as follows:

- If your answer is correct, place a check on the problem on the front printed page.
- If your answer is incorrect, place an X next to the problem on the front printed page and rework in pen on separate sheet of paper labeled “Corrections”. If you still cannot get the correct answer after reworking, place a ? next to the X so you know that you need to ask about that question during early AP week. Staple your corrections to the back of each test packet and paper clip all tests together.

**Step 4:** Do this part no earlier than one week before early AP week starts. After checking the Gateway Tests, print out the file entitled “Mad Minutes Trig Practice”. Use your knowledge of the unit circle, trig functions and trig inverse functions to complete. You should time yourself and allow **20 minutes** to complete all. Find either the exact ratio or exact angle as appropriate. **NO CALCULATOR OR NOTES ARE ALLOWED SO STUDY BEFORE YOU BEGIN.** Bring to class with Gateway tests on the first class during early AP Week.

Since the best is yet to come, I decided to focus this last part of your summer assignment on previewing some essential concepts in calculus. **We will be completing the explorations during early AP week.** I will hand them out on the first day. Your final write ups of the explorations will be due on the first day of class after Labor Day. Follow the instructions listed below:

- Present your work on separate paper. Be neat and organized! If necessary, rewrite your work, just as you would an essay for another class. You may type your responses but all mathematical work must also be shown clearly.
- Be expressive. Write in complete sentences and show your math clearly. Any reader should be able to follow your thinking and underlying logic.
- When drawing graphs, use appropriate windows, label what the axes represent, show a scale, give your graph a title and identify any key values and points.
- At the end of each exploration/project, summarize your findings and conclusions in a well-written paragraph. Answer all of the questions posed in the assignment and include any other insights you have made. *Convince your reader that you thoroughly understand the concepts covered!*

Looking forward to a great year

Mrs. Ellis