

## Summer 2016 Assignment for Incoming AP Calculus-2/BC Students

Welcome to AP Calculus-2 BC. I'm looking forward to meeting you all in September, and working with you all year to complete the curriculum for the Single Variable Calculus (Calc-1 + Calc-2). Successful completion of this course will set you up for success in college. I take this course very seriously, and hope you do as well!

When we start in September, after a quick review of the following topics we will have an exam on Chapter-6 (Differential Equation). I anticipate that this exam will be given during our second meeting (possibly third). Topics are:

- 1- Slope field (calc-1 curriculum)
- 2- Growth and Decay Models (Calc-1 curriculum)
- 3- Separable Differential Equations (Calc-1 curriculum)
- 4- Orthogonal Trajectories (Calc-1 curriculum)
- 5- Euler's Method (calc-2 curriculum and, and possibly year-end Calc-1 project for some of you. This is DE of the form:  $y' + P(x)y = Q(x)$  )
- 6- Logistic Differential Equation (Calc-2 curriculum and year-end Calc-1 project)
- 7- First Order Linear Differential Equations (Calc-2 curriculum and year-end Calc-1 project).

Please note that the first three or four topics were covered in Calc-1 and the last three are technically Calc-2, however you may well have seen some of the last three topics in calc-1 as well. Also the last three topics were given to you as a year-end self-reading project.

I have included my June 2015 Calc-1 final exam & its solution which was based on the above topics. This exam is a very good representation of the topics we are asking for you to prepare during summer. However, some of the topics did not appear in this particular exam.

I have also copied pages from the textbook on calc-2 topics and representative practice problems that you need to work on, just in case you don't have them readily available to you during summer (I have check-marked sections and problems you need read/practice/solve).

Please note: It is imperative that you study well. The exam that you will take during our second meeting in September will count toward your M1 grade. This can also help you validate for yourself that you are ready for Calc-2

Good luck!

Dr. Jidarian