

Calculus Summer Work

As we move into the next school year, we prepare for new challenges and experiences. However, it is important that our foundation is sound and on sure footing. Throughout the summer, you will complete a series of modules in onCampus for AP Calculus BC. The purpose of this work is to keep you current in your math skills and to make sure you are prepared to complete standard tasks that will come up in a Calculus II class. After discussion with students and personal reflection, I have created what I believe will be an appropriate level of work to complete throughout the summer.

The work will be organized into two week chunks, in order to account for vacations, down time, jobs, personal responsibilities, and such. It is not my intention for you to struggle through this work, but if you have questions I will be available via email or the Remind app. You are encouraged to use online resources to review topics independently before asking for help. The schedule is as follows:

Assignment 1 – Due July 15, 2018

Polar and Parametrics: This will include **vector analysis**, identifying relationships among coordinates, equations and graphs in polar and parametric form, and beginning to look at **two dimensional motion**.

Assignment 2 – Due July 29, 2018

Limits: This will be a review of limits including analysis of **continuity, end behavior**, and **L'Hopital's rule**. Algebraic, graphical, and numerical approaches are all encouraged.

Assignment 3 – Due August 12, 2018

Derivatives: This section will include finding the **slope** between two points, **average vs. instantaneous rates of change**, and derivatives of known function types including, but not limited to, polynomial, exponential, logarithmic, and trigonometric functions.

Assignment 4 – Due August 26, 2018

Integrals: This last section will review integration techniques, the First and Second **Fundamental Theorems of Calculus**, and numerical approximations of integrals (**Riemann sum/trapezoid rule**).

Assignments will be listed in the assignments tab of a dedicated summer homepage in onCampus. We will maintain a Sunday night schedule throughout the summer. Assignments will close at midnight on their due dates as they do throughout the year; I will not be reopening assignments after their due dates. These assignments will be put into a single online assignment grade for first quarter next year.

If you have any further questions or concerns, do not hesitate to contact me.

Ms. T
danielletornabene@concordiaprepschool.org