

Summer Assignment

AP Calculus BC

Directions: Create one full page of work explaining and showing examples of the following topics. Show all work. Be ready to hand in your work the first day of school. Students will be quizzed on this material in the first week of the 2020 -2021 school year.

Topic 1

Polar Equations: converting from polar to rectangular. Basic Graphs. How to use the calculator to graph in function mode and polar mode. Overall concept of what it means to have $r(\theta)$ as a function.

Topic 2

Vectors/Parametric Equations. These are the same thing for AP Calc purposes. They need to know how to work with the parameter and that there's a horizontal distance of x that changes with time alongside the vertical distance of y that changes for time.

Topic 3 + 4

Limits and Derivatives (Units 1-3 of AB Calc): Graphically and through equations. Derivative Rules. Definition of derivative. Continuity, using the three part definition. Relationship between continuity and differentiability. L'Hospital's Rule.

Topic 5

Trig. Evaluating trig functions. basic graphs, inverse trig expressions and equations

Web resources to help:

Mathispower4u

Patrickmkt

Youtube topics

Khan Academy