This course is an introduction to the field of Mathematics, that is Analysis (aka Calculus). AP Calculus AB covers the basic topics of both Differential and Integral Calculus and even offers a short introduction to one of the most important uses of Calculus, Differential Equations. To excel in this course, a firm understanding of Algebra and Trigonometry is required and expected. Considering the prerequisite knowledge for this course, the summer assignment will be as follows:

- 1. Read the entirety of "Chapter 1: Functions and Graphs" of the textbook. You can use either the online version (linked below) or pick up a physical version from me.
  - Free Calculus Volume 1 Textbook Available for Download OpenStax
    This is a dense chapter that covers material you should already be familiar with from both Algebra II and Precalculus. I recommend starting this as early as possible and reading it one section at a time. The best method to read a math textbook is called "active reading" where you slowly and methodically take notes as you read and work out the examples provided so that you can ensure that you learn the material.
- 2. Complete and commit to memory the attached table and unit circle.
- 3. Enjoy your summer.

Square x	Rectangle y	Trapezoid
x	×	<b>b</b> <sub>1</sub> <b>b</b> <sub>2</sub>
Perimeter =	Perimeter =	ħ
Area =	Area =	Area =
Circle	Triangle a b	Cube x x
Area =	Pythagorean Theorem (only good for right triangles) =  Area (of any triangle) =	Volume =  Surface Area =
Sphere	"Washer"	Cylinder
Volume =	Area of the shaded region =	Volume =

