

AP Calculus AB/BC Summer Assignment

Remind Code: Text @chscal18 to 81010

Google Classroom: AB Calculus - 6ohkjp
BC Calculus - 7s8nt2

I. Unit Circle

On Day 1 next school year, you will have a quiz on the Unit Circle. You will need to memorize all angles in radian measure and all coordinates. I have attached a filled in and blank unit circle for you to study and practice. You may also watch my video on YouTube for a way to help remember it.

<https://youtu.be/SbUdRZRbrX4>

II. Using the TI-Nspire

The primary purpose of this summer assignment is for you to get familiar with the TI-Nspire graphing calculator. It will be our primary technological instrument and you will be required to use one on nearly a daily basis. I have created a series of videos to get you familiar with the basic functions of the calculator and a couple of techniques that you will be required to do during class. Watch each video in sequence, then complete the problems below.

All videos will be on my website: www.maestasmath.com

Video 1: Basics of the TI Nspire

Video 2: Using the Calculator Tab in the TI-Nspire

Video 3: Using the Graphing Tab in the TI-Nspire

Video 4: Solving Equations by finding zeros in the TI-Nspire

Video 5: Solving Equations by finding intersections in the TI-Nspire

Problem Set 1: Solving Equations by Finding Zeros

Solve each equation by finding the zero of a function using the TI-Nspire. Round to three decimal places. Make sure your calculator is in "radian" mode.

1. $x^2 - 3x + 2 = 0$

2. $x^5 - 3x^4 + 2x^3 - 2x + 1 = 0$

3. $\cos(x - 3) + \sin(x^2) = 0$ for x values in the interval $[0, \pi]$.

4. $\ln(x^2 + 3x + 4) = 3$

Problem Set 2: Solving Equations by Finding Intersections

Solve each equation by finding the intersection of the graphs on each side of the equation using the TI-Nspire. Round to three decimal places. Make sure your calculator is in "radian" mode.

1. $x^2 + 3x - 1 = e^x - 2$

2. $\ln(x^2 - 1) = \tan(x + 1)$ for x values in the interval $[0, 4]$.

3. $\cos(x - 3) = \frac{5x^2 + 3x - 2}{x^2 - 4}$

4. $2^{x-3} = x^3 - 2x + 1$