AP CALCULUS SUMMER ASSIGNMENT 2023

All assignments are from the textbook.

Calculus:Graphical, Numerical, Algebraic
Finney, Demana, Waits, Kennedy
Third Edition
Pearson Prentice Hall
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To complete preparation for the course students should adhere to the following:

- I compiled all the assignments from Chapter 1 and the beginning of Chapter 2. There is a lot of work here; I suggest doing as much of it as you need to feel comfortable with a topic. If you feel confident you can move on, but you are responsible for all the information.
- Upon completion of each assignment, check answers using the appropriate solution key. Most assignments refer to the odd numbered questions because answers are in the textbook. (Many detailed solutions for this text are also online.)
- Correct any mistakes (if possible), referring to the section examples/solutions where necessary.

Please note the following:

- A Summer Assignment test is scheduled within the first few days of class in the fall. At that time, all students should be able to produce their notebooks with all of their work included.
- Pg. 562-565 is your "friend". Spend some time making sure you are comfortable with all the formulas, etc.
- A working knowledge of right triangle trigonometry, trigonometric identities, and the unit circle is essential.
- The behavior of functions (linear, polynomial, trigonometric, logarithmic, etc.) and the ability to recognize the effects coefficients and additional terms have on that behavior is also important.

Section	Additional Notes
Chapter 1 Prerequisites for Calculus	
Section 1.1 Lines	
Pg. 9-10 #11-41 (O) Pg. 10-11 #45-57	

Section 1.2 Functions and Graphs	
Pg. 19 #1-44 (O) Pg. 20-21 #45-55 (O), 57-62	The Exploration on pg. 18 may be helpful. Pg.21 #67-70 and the Exploration 1 on pg. 22 could be helpful.
Section 1.3 Exponential Functions	
Pg. 26-27 #1-32 (O) Pg. 27-28 #38-46	Pg. 27-28 #33-36, 40 are interesting.
Section 1.4 Parametric Equations	
	We will discuss this topic during class.
Section 1.5 Functions and Logarithms	
Pg. 44 #1-24 (O), 33-42 (O) Pg. 44-45 #43-49 (O), 52-57	
Section 1.6 Trigonometric Functions	
Pg. 52 #1-16 Pg.52-53 #17-22, 25-42	Pg. 53 #24 is interesting. ## UNIT CIRCLE! (enough said)
Chapter 1 Review	
Pg. 56-57 #1-67	
Chapter 2 Limits and Continuity	
Section 2.1 Rates of Change and Limits	
Pg. 66 #1-28 Pg. 66-67 #29-44 Pg. 67-68 #45-50, 51-63 (O)	Instantaneous vs. Average – Calculus vs. Non-Calculus Sandwich Theorem looks "scary" but it is not. Helpful limits from Trigonometry: $\lim\limits_{x\to 0}\frac{\sin x}{x} = 1$ $\lim\limits_{x\to 0}\frac{1-\cos x}{x} = 0$

Section 2.2 Limits Involving Infinity	
Pg. 76 #1-34 (O) Pg. 76-77 #35-38, 39-48 (O), 53, 55, 59-64	Check out #56.
Section 2.3 Continuity	
Pg.84-85 #1-24 (O) Pg. 85-86 #25-36 (O), 41-49 (O), 56-59	Check out pg. 80. Intermediate Value Theorem is very important.

I am very excited to have this opportunity to work with you. Notice I said, "work with you", we are in this together but I need you to be "all-in" from the beginning. The more foundation work we put in early the more time we will have in the spring to prepare for the test. Have some fun this summer, recharge and get some rest, and I will see you in the fall.

Beautiful Dance Moves

sin(x)   cos(x)   tan(x)   cot(x)

|x| x x^2 x^2+y^2

$\sqrt{x}$ $\sqrt{-x}$ $\frac{1}{x}$ crap.