AP Calculus AB Summer Packet

Part 1: Register with Khan Academy

Attached to this sheet is the registration directions for Khan Academy. Please follow these directions to register. If you have any questions, I have set up a remind.com account for this course: text 81010 with the message @96ee84cgf4 to join. Once you have joined, I can text you, so you can reach me. Please register on Remind by June 10, 2019.

Once you are registered in Khan Academy, you will see your summer packet work, this will be available starting June 10th. There are 5 categories you must complete by the first day of school, do not wait until the last minute to complete this. Please complete the assignments in the following order:

1. Defining Limits and Using Limit Notation
2. Estimating Limit Values From Graphs
3. Estimating Limit Values From Tables
4. Determining Limits Using Algebraic Properties of Limits: Limit Properties
5. Determining Limits Using Algebraic Properties of Limits: Direct Substitution

There are a total of 37 assignments, ranging from videos to watch, practice problems and then assessments. Please take all assessments included in these sections (including quizzes and tests). This material will be quickly reviewed at the beginning of the semester, but most of it should be review from previous courses.

Your grade will be determined by:

- 50% completion
- 50% score (correctness)

Part 2: Algebra Review

There are 72 problems that you will need to complete on a separate sheet of paper. Please show all work for each problem, without using a calculator (except for #’s 48-57). These problems should be completed by the first day of school.

Khan Academy Registration

If you do not have a Khan Academy account, please go to www.khanacademy.org/join and create an account.

From there you can join the class with the class code AJNHASR6

Or you can go to the following site to join:

https://www.khanacademy.org/join/AJNHASR6

Once you are in the class, then I can share the assignments with you. I will send the assignments to anyone who is registered by June 10th.

If you join after JUNE 10th, please text me through the remind app so you can be added to the assignments.

All of your assignments will be under the assignment tab, click start on the first assignment, then work your way through them.

You will be required to have a graphing calculator for this course. I would highly recommend that TI-84 (and version, but the newer the better) or the TI-nSpire. These calculator can be expensive, so you may want to shop around the back to school deals that happen around the end of July.
Summer Packet

Write the point-slope form of the equation of each line given the slope and y-intercept.

1) Slope = $\frac{9}{5}$, y-intercept = 5
2) Slope = $-\frac{3}{2}$, y-intercept = -3
3) Slope = $\frac{3}{5}$, y-intercept = -2
4) Slope = $\frac{1}{2}$, y-intercept = -3

Write the point-slope form of the equation of the line through the given point with the given slope.

5) through: (2, -2), slope = $\frac{1}{2}$
6) through: (3, -1), slope = 1
7) through: (3, -3), slope = -4
8) through: (4, -2), slope = -1

Write the point-slope form of the equation of the line through the given points.

9) through: (2, -4) and (3, 2)
10) through: (-5, -1) and (0, 5)
11) through: (-2, -2) and (-5, 1)
12) through: (1, 5) and (-2, -5)

Solve each equation by factoring.

13) $x^2 = -32 - 12x$
14) $a^2 - 9a = -14$
15) $x^2 = 11x - 24$
16) $n^2 + 4n = 0$
17) $m^2 = -8 - 9m$
18) $4x^2 + 17x = -15$
19) $15v^2 - 16v = 64$
20) $2p^2 = 21 + p$
21) $5a^2 = 4a$
22) $7x^2 - 8 = 26x$
23) $5n^2 - 38n = -21$
24) $7x^2 - 31x = 20$
25) $7r^2 + 5r = 0$

Draw an angle with the given measure in standard position.

26) $-600^\circ$
Find the reference angle.

32) \(-510^\circ\)  
33) \(310^\circ\)  
34) \(-\frac{3\pi}{4}\)  
35) \(-\frac{8\pi}{3}\)  
36) \(\frac{7\pi}{6}\)  
37) \(-\frac{10\pi}{3}\)  

Convert each degree measure into radians and each radian measure into degrees.

38) \(-705^\circ\)  
39) \(\frac{2\pi}{3}\)  
40) \(180^\circ\)
41) $-\frac{11\pi}{6}$  
42) $-\frac{5\pi}{9}$

43) $240^\circ$  
44) $-\frac{\pi}{4}$

45) $\frac{25\pi}{6}$  
46) $\frac{\pi}{3}$

47) $\frac{\pi}{4}$

Use a calculator to find each. Round your answers to the nearest ten-thousandth.

48) $\sec\frac{37\pi}{18}$  
49) $\cos 975^\circ$

50) $\tan -425^\circ$  
51) $\sec \frac{109\pi}{36}$

52) $\sin -670^\circ$  
53) $\sec -500^\circ$

54) $\sec -40^\circ$  
55) $\sin -\frac{169\pi}{36}$

56) $\cos -\frac{173\pi}{36}$  
57) $\sec 1018^\circ$

Find the exact value of each trigonometric function.

58) $\sec 690^\circ$  
59) $\cot -\frac{14\pi}{3}$

60) $\tan -810^\circ$  
61) $\sin \frac{3\pi}{2}$

62) $\sec \frac{\pi}{3}$  
63) $\tan -\frac{7\pi}{2}$

64) $\tan -\frac{14\pi}{3}$  
65) $\sin 225^\circ$

66) $\cos -780^\circ$  
67) $\cot -270^\circ$

68) $\sin 210^\circ$  
69) $\sec -\pi$

70) $\csc 1035^\circ$  
71) $\cot -\frac{19\pi}{4}$

72) $\cot 300^\circ$