

# MORTON EAST HIGH SCHOOL

Math Department

Graphing calculators are an integral part of Pre-Calculus and AP Calculus. You have already learned how to operate a graphing calculator in Pre-Calculus and will continue to use this valuable technology during AP Calculus at Morton East and throughout your math courses in college.

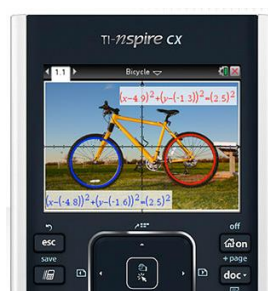
You are required to use a graphing calculator for the AP Calculus exam. If you already have a TI-Nspire, you are already prepared.

If you do not have one yet, the Texas Instrument TI-Nspire CX or CX II is the suggested graphing calculator. Calculators can be purchased at local stores or online.

**Notice: The TI-Nspire CAS (CAS stands for Computer Algebra System) and TI-89 ARE NOT allowed for the ACT, but are allowed for the SAT & AP exam.**



Permitted on SAT & AP Exam



Permitted on ACT, SAT, & AP Exam

Thank You,

*AP Calculus AB & BC Teachers*

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## AP Calculus BC's AB Part of Summer Work 2023-2024

**TO:** All 2023/2024 AP Calculus BC Students

**FROM:** AP Calculus BC East Teacher  
Ms. Kane—Room 351

We are pleased that you have chosen to continue your math sequence by enrolling in AP Calculus BC for next year. To help ensure your success in AP Calculus BC next year, we have created a summer review program. This program contains material that you will complete online and during the Boot Camp. The online questions contain information from your previous math courses *and* the AP Calculus A topics on Limits & Continuity, Parametric, Vector, Polar, & Logistic functions will be completed during the Boot Camp.

Calculus BC's AB Part of Summer Work Requirements:

- Complete Part I on Khan Academy by June 16<sup>th</sup> & **TURN IN written work on 1<sup>st</sup> day of Boot Camp.**
- Complete Part II on Khan Academy by July 12<sup>th</sup> & **TURN IN written work on 1<sup>st</sup> day of school.**
- Complete Part III on Khan Academy by August 2<sup>nd</sup> & **TURN IN written work on 1<sup>st</sup> day of school.**

Summer work grade (see rubric below) will be given based upon successful completion of each part on-time.

*AP Calculus BC's AB Part of Summer Work Rubric*

	5	4	3	2	1	0
Part I	Completed all topics on-time with written work and 100% success on topics	Completed all topics on-time with written work and 86-99% success on topics	Completed all topics on-time with written work and 75-85% success on topics	Completed all topics on-time with written work and 61-74% success on topics	Completed all topics on-time with written work and 50-60% success on topics	Not completed on-time OR missing topics OR missing written work OR less than 50% success on topics
Part II	Completed all topics on-time with written work and 100% success on topics	Completed all topics on-time with written work and 86-99% success on topics	Completed all topics on-time with written work and 75-85% success on topics	Completed all topics on-time with written work and 61-74% success on topics	Completed all topics on-time with written work and 50-60% success on topics	Not completed on-time OR missing topics OR missing written work OR less than 50% success on topics
Part III	Completed all topics on-time with written work and 100% success on topics	Completed all topics on-time with written work and 86-99% success on topics	Completed all topics on-time with written work and 75-85% success on topics	Completed all topics on-time with written work and 61-74% success on topics	Completed all topics on-time with 50-60% success on topics	Not completed on-time OR missing topics OR missing written work OR less than 50% success on topics

Below is a list of supplies you will NEED for AP Calculus. Shop for the items when they are on sale and be prepared the first day of school. AP Calculus is a college-level course and you are expected to be prepared with your materials each day.

### ***AP Calculus Supplies Needed:***

Pencils/Erasers

Binder

Paper

Graphing Calculator (TI-Nspire CX or CX II or TI-Nspire CX CAS)

\*\*\*\*\* **YOU MUST HAVE A GRAPHING CALCULATOR** \*\*\*\*\*  
\*\*\*\*\* **EVERY DAY, IN CLASS AND AT HOME** \*\*\*\*\*

## AP Calculus BC's AB Part of Summer Work 2023-2024

- Write your work for these questions. As in all mathematics courses, the importance of showing your work and arriving at the correct answer are equally important. Answers only is not acceptable for an AP course. Please make sure to show all your steps in a clear way.
- Late work is never acceptable for Calculus students.
- If you choose to redo assignment for higher grade, you will need to submit ALL sets of work.

**Part I:** Must be completed and submitted by June 16<sup>th</sup>.

Written work to be turned in on 1<sup>st</sup> day of Boot Camp.

NOTICE!

Before completing the assignments, you may want to practice or watch videos on [Get ready for limits and continuity](#) or [Get ready for differentiation: definition and basic derivative rules](#) or [Get ready for differentiation: composite, implicit and inverse functions](#).

- Get ready for limits and continuity: Quiz 1
- Get ready for limits and continuity: Piecewise functions graphs
- Get ready for limits and continuity: Quiz 3
- Get ready for limits and continuity: Quiz 4
- Radians: Unit circle (with radians)
- Get ready for limits and continuity: Quiz 7
- Get ready for differentiation: definition and basic derivative rules: Quiz 1
- Get ready for differentiation: definition and basic derivative rules: Quiz 2
- Get ready for differentiation: composite, implicit and inverse functions: Quiz 1

**Part II:** Must be completed and submitted by July 12<sup>th</sup>.

Written work to be turned in on 1<sup>st</sup> day of school.

Before completing the assignments, you may want to practice or watch videos on [Get ready for contextual applications of differentiation](#) or [Get ready for applying derivatives to analyze functions](#) or [Get ready for integration and accumulation of change](#).

- Get ready for contextual applications of differentiation: Average rate of change word problems
- Get ready for applying derivatives to analyze functions: Distance between two points
- Get ready for applying derivatives to analyze functions: Zeros of polynomials (factored form)
- Get ready for applying derivatives to analyze functions: Zeros of polynomials (with factoring)
- Get ready for integration and accumulation of change: Partial fraction expansion

**Part III:** Must be completed and submitted by Aug 2<sup>nd</sup>.

Written work to be turned in on 1<sup>st</sup> day of school.

Before completing the assignments, you may want to practice or watch videos on [Get ready for applications of integration](#) or [Get ready for parametric equations, polar coordinates, and vector-valued functions](#) or [Get ready for infinite sequence and series](#)

- Get ready for applications of integration: Rational equations intro
- Get ready for applications of integration: Solving equations graphically: graphing calculator
- Get ready for parametric equations, polar coordinates, and vector-valued functions: Magnitude of vectors
- Get ready for infinite sequence and series: Explicit formulas for geometric sequences
- Get ready for infinite sequence and series: Summation notation intro
- Get ready for infinite sequence and series: End behavior of rational functions

## **AP Calculus BC Summer Review – Calculus A Topics**

- Complete the following assignments to be given in class:

**HW1** – Limits including parametric equations, vectors, & polar functions

**HW2** – Continuity including parametric equations, vectors, and polar functions

**HW3** – IVT, Rates of Change & Tangent Lines

As in all mathematics courses, the importance of showing your work and arriving at the correct answer are equally important. Answers only are not acceptable for an AP course. Please make sure to show all your steps in a clear way.

Remember the following 3 items as you are writing your work: notation, notation, notation.

You can find some helpful lessons available at: [www.mathkanection.com](http://www.mathkanection.com)

\*\*\*\*There will be a test on the AP Calculus A topics (Parametric/Vectors, Polar, Limits, Continuity, and Rates of Change & the Derivative) on the last day of BC Boot Camp.\*\*\*\*

Remember that you selected to take BC and were willing to work at this challenging pace of learning two semesters of college-level Calculus.