MORTON EAST HIGH SCHOOL

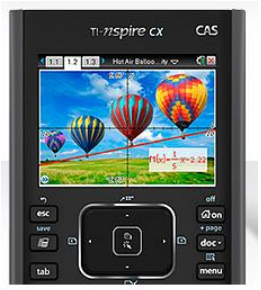
Math Department

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.

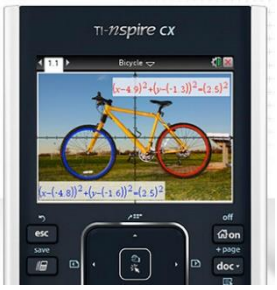
You are required to use a graphing calculator for the AP Calculus exam. If you already have a TI-Nspire, you are already prepared.

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
Mr. Gierut: pgierut@jsmorton.org
Ms. Kane: bkane@jsmorton.org

AP Calculus BC's AB Part of Summer Work 2024-2025

TO: All 2024/2025 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 May 29th & TURN IN written work on 1st day of Boot Camp.
- Complete Part II on Khan Academy by July 10th & TURN IN written work on 1st day of school.
- Complete Part III on Khan Academy by July 31st & TURN IN written work on 1st 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 on 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 2024-2025

- 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.

NOTICE!

Part I: Must be completed and submitted by May 29th.
Written work to be turned in on 1st day of Boot Camp.

Before completing the assignments, you may want to practice or watch videos on Get ready for limits and continuity.

a) **Get ready for limits and continuity:** Quiz 1
b) **Get ready for limits and continuity:** Quiz 2
c) **Get ready for limits and continuity:** Quiz 3
d) **Get ready for limits and continuity:** Quiz 4
e) **Radians:** Unit circle (with radians)

Part II: Must be completed and submitted by July 10th .
Written work to be turned in on 1st day of school.

Before completing the assignments, you may want to practice or watch videos on Get ready for differentiation: definition and basic derivative rules or Get ready for differentiation: composite, implicit and inverse functions or Get ready for contextual applications of differentiation or Get ready for applying derivatives to analyze functions.

a) **Get ready for limits and continuity:** Quiz 7
b) **Get ready for differentiation: definition and basic derivative rules:** Quiz 1
c) **Get ready for differentiation: definition and basic derivative rules:** Quiz 2
d) **Get ready for differentiation: composite, implicit and inverse functions:** Quiz 1
e) **Get ready for contextual applications of differentiation:** Average rate of change word problems
f) **Get ready for applying derivatives to analyze functions:** Distance between two points
g) **Get ready for applying derivatives to analyze functions:** Zeros of polynomials (factored form)
h) **Get ready for applying derivatives to analyze functions:** Zeros of polynomials (with factoring)

Part III: Must be completed and submitted by July 31st.
Written work to be turned in on 1st day of school.

Before completing the assignments, you may want to practice or watch videos on Get ready for integration and accumulation of change or 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

a) **Get ready for integration and accumulation of change:** Partial fraction expansion
b) **Get ready for integration and accumulation of change:** Summation notation intro
c) **Get ready for applications of integration:** Quiz 1
d) **Get ready for applications of integration:** Quiz 2
e) **Get ready for parametric equations, polar coordinates, and vector-valued functions:** Magnitude of vectors
f) **Get ready for parametric equations, polar coordinates, and vector-valued functions:** Vector components from magnitude & direction
g) **Get ready for infinite sequence and series:** Explicit formulas for geometric sequences

AP Calculus BC Summer Review – Calculus A Topics

- Complete the following assignments to be given in class:

  HW1 – Polar functions
  HW2 – Limits including parametric equations, vectors, & polar functions
  HW3 – Continuity including parametric equations, vectors, and polar functions
  HW4 – 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

****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.