

Calculator Policy



Calculators are allowed only for some or all parts of AP Exams in these subjects: Biology, Calculus (AB/BC), Chemistry, Environmental Science, Macroeconomics, Microeconomics, Physics 1, Physics 2, Physics C: Mechanics, Physics C: Electricity and Magnetism, Precalculus, and Statistics.

Handheld graphing calculators, for exams that allow or require them, must be on the approved calculator list. (See pages 64–65.) Four-function calculators are basic calculators that have functions limited to addition, subtraction, multiplication, division, square roots, and percentage.

NEW For all exams that allow or require calculators, except AP Statistics, students can use the **built-in Desmos graphing calculator** through the Bluebook testing application. Note that for Calculus AB, Calculus BC, and Precalculus, Desmos will only be available in the calculator-required parts of the exam. These exams continue to have parts where no calculator is allowed.

Note: Calculators are **not allowed** for any other AP Exams, including Computer Science A* and Computer Science Principles*.

Calculators can be used on all or some parts of the AP Exams listed here (and on no others).

*Unless a student has an approved accommodation for use of a four-function calculator.

Biology

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Allowed: <ul style="list-style-type: none"> Four-function calculator (with square root) Scientific (nongraphing) calculator, but must not have unapproved features or capabilities (see the list of unapproved calculators and technology on page 62) Graphing calculator Built-in Desmos graphing calculator through Bluebook 	Allowed	Allowed

Calculus AB/Calculus BC

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Graphing calculator required and expected to have built-in capability to: <ul style="list-style-type: none"> Plot the graph of a function within an arbitrary viewing window. Find the zeros of functions (solve equations numerically). Numerically calculate the value of the derivative of a function at a point. Numerically calculate the value of a definite integral. If these capabilities aren't built in, the student should enter appropriate programs into the calculator before the exam. Built-in Desmos graphing calculator through Bluebook Not allowed: <ul style="list-style-type: none"> Nongraphing and other types of calculators are prohibited, even as a second calculator 	<p>Not allowed for Part A</p> <p>Required* for Part B</p>	<p>Required* for Part A</p> <p>Not allowed for Part B</p>

* "Required" indicates some questions can't be answered without a graphing calculator and **no** other calculator type is permitted.

Chemistry

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Allowed: <ul style="list-style-type: none"> Scientific (nongraphing) calculator (recommended), but must not have unapproved features or capabilities (see the list of unapproved calculators and technology on page 62) Graphing calculator Four-function calculator (not recommended) Built-in Desmos graphing calculator through Bluebook 	Allowed	Allowed

Environmental Science

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Allowed: <ul style="list-style-type: none"> Four-function calculator (with square root) Scientific (nongraphing) calculator, but must not have unapproved features or capabilities (see the list of unapproved calculators and technology on page 62) Graphing calculator Built-in Desmos graphing calculator through Bluebook 	Allowed	Allowed

Macroeconomics/Microeconomics

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Allowed: <ul style="list-style-type: none"> Four-function calculator Built-in Desmos graphing calculator through Bluebook Not allowed: <ul style="list-style-type: none"> Handheld calculators with storage capabilities, such as scientific or graphing calculators, are prohibited 	Allowed	Allowed

Physics 1: Algebra-Based, Physics 2: Algebra-Based, Physics C: Electricity and Magnetism, Physics C: Mechanics

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Allowed: <ul style="list-style-type: none"> Four-function calculator Scientific (nongraphing) calculator, but must not have unapproved features or capabilities (see the list of unapproved calculators and technology on page 62) Graphing calculator Built-in Desmos graphing calculator through Bluebook 	Allowed	Allowed

Precalculus

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Graphing calculator required and expected to have built-in capability to: <ul style="list-style-type: none"> Perform calculations (e.g., exponents, roots, trigonometric values, logarithms). Graph functions and analyze graphs. Generate a table of values for a function. Find real zeros of functions. Find points of intersection of graphs of functions. Find minima/maxima of functions. Find numerical solutions to equations in 1 variable. Find regressions equations to model data (linear, quadratic, cubic, quartic, exponential, logarithmic, sinusoidal, and plotting residuals). Built-in Desmos graphing calculator through Bluebook Not allowed: <ul style="list-style-type: none"> Nongraphing and other types of calculators are prohibited, even as a second calculator 	<p>Not allowed for Part A</p> <p>Required* for Part B</p>	<p>Required* for Part A</p> <p>Not allowed for Part B</p>

* "Required" indicates some questions cannot be answered without a graphing calculator and **no** other calculator type is permitted.

Statistics

Type of Calculator	Exam Section I Multiple Choice	Exam Section II Free Response
<ul style="list-style-type: none"> Allowed: <ul style="list-style-type: none"> Graphing calculator with statistical capabilities expected.* Scientific (nongraphing) calculator if the calculator has the required statistics computational capabilities described in the AP Statistics Course and Exam Description. <ul style="list-style-type: none"> Computational capabilities should include standard statistical univariate and bivariate summaries, through linear regression. Required capabilities may be either built in or programmed into the calculator before the exam. Graphical capabilities should include common univariate and bivariate displays such as histograms, boxplots, and scatterplots. It's up to the student to determine if the calculator meets the criteria of required computational and graphical capabilities. Not allowed: <ul style="list-style-type: none"> Enhancements other than those that improve the calculator's computational and/or graphical functionalities are prohibited. Unapproved enhancements include, but are not limited to, keying or scanning text or response templates into the calculator. 	Expected*	Expected*


Note: The Desmos graphing calculator is not available for this exam because Desmos does not currently have the required statistics computational capabilities.

* Although scientific calculators with computational capabilities (standard statistical univariate and bivariate summaries, through linear regression) are allowed, students are expected to use a graphing calculator.

Determine before the exam administration whether students will be using the built-in Desmos graphing calculator through Bluebook (except for AP Statistics), or using handheld calculators. If students will be using handheld calculators, ask AP teachers to remind students several days before the exam to:

- Bring the appropriate calculator on exam day (students may bring up to 2 permitted calculators).
- Check the features that are required or not permitted.
- Check the batteries in the calculator (fresh batteries are recommended).
- Remember that they can't share calculators with other students.
- If a student doesn't want to use a calculator or if the option of providing a calculator isn't feasible, the student may take an exam without one.

Teachers should refer students to apstudents.org/calculators for the most current list of approved graphing calculators.

 **EXAM SECURITY** Since graphing calculators can be used to store data, including text, proctors should monitor whether students are using their calculators appropriately. They should also be on the lookout for calculators that have been modified and for excessive use of a calculator during the exam. Attempts by students to use the calculator to remove exam content from the room may result in the cancellation of AP Exam scores. However, calculator memories don't need to be cleared before or after the exam.

For security reasons, some calculators require special instructions.

- Calculators with large display (characters $\geq 1"$) or display raised from the horizontal (tilted or hinged screen) may be visible to other students so seat students using these calculators at the back of the testing room.
- Calculators with infrared communication capabilities are permitted. However, because data can be exchanged between these calculators if they are aligned and close

together, proctors should make sure that students keep their calculators sufficiently far apart and the infrared ports are not facing each other.

- Calculators with built-in physical constants, metric conversions, and physics, chemistry, or mathematics formulas are permitted. Calculator memories do not need to be cleared before or after the exam.
- The Hewlett-Packard 48-50 Series and Casio FX-9860 graphing calculators may use memory cards designed for use with those calculators.
- The Casio FX-CG500 calculator is permitted only without the use of the stylus.

Unapproved Calculators and Technology

Students are not allowed to use any of the following*:

- Phones, smartwatches, or wearable technology of any kind
- Portable/handheld computers, tablets, laptops, electronic writing pads
- Models with QWERTY (i.e., typewriter-like) keypads as part of hardware or software (e.g., TI-92 Plus, Voyage 200)
- Models with pen-input/stylus capability (e.g., Palm, PDAs, Casio ClassPad)
- Models with wireless, Bluetooth, or cellular capability
- Models that require an electrical outlet, "talk,"** or make noise, or have a paper tape
- Models that can access the internet
- Models that have cell phone capability or audio/video recording or playing capability
- Models that have a camera, scanning capability, or any other smartphone-type features
- Models with touch-screen capability that aren't on the list of approved graphing calculators (e.g., Casio ClassPad)
- Hardware peripherals such as a stylus, keyboard, or wireless adapter with an approved calculator

* Unless approved by the College Board SSD office as an accommodation

School-Supplied Backup Calculators

If students will be using handheld calculators, proctors should have a supply of extra AP-approved calculators and fresh batteries on exam day. You should be able to provide a substitute calculator when:

- A student arrives without a calculator
- A student arrives with an unacceptable calculator
- A calculator malfunctions during the administration

If the student is unable to use the offered calculator, or is unfamiliar with its operation, or you've run out of or don't have spare calculators and still have students that need them, call AP Services for Educators immediately.

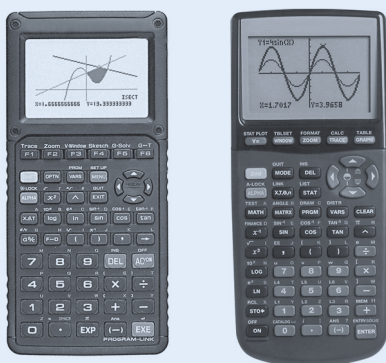
Order a late-testing exam if:

- A student is unable to use the offered calculator.
- A student is unfamiliar with the operation of an offered calculator.
- You run out of or don't have spare calculators and still have students who want and need them.

NOTE: School-supplied graphing calculators must be on the approved calculator list on pages 64–65.

NEW Starting in 2025, calculator release statements are no longer used.

Acceptable Graphing Calculators



Unacceptable Model with QWERTY Keyboard



Acceptable Four-Function Calculator



Typical Scientific Calculator Models

