

The AP Test Explained





The AP Calculus BC Exam

(a)

Date:

Section I, Part A – 55 Minutes

/ ____

Multiple Choice (28 Questions)Non-Calculator

Section I, Part B – 50 Minutes

Multiple Choice (17 Questions)Calculator

Section II, Part A – 30 Minutes

Free Response (2 Questions)Calculator

Section II, Part B – 60 Minutes

Free Response (4 Questions)Non-Calculator

~2 minutes per question AVERAGE

~2 minutes and 56 seconds per question AVERAGE

15 minutes per question AVERAGE

15 minutes per question AVERAGE



How AP Exams are Scored

Multiple Choice – Scored by Machine Free Response – Scored by High School and College Teachers

The scores from both sections are combined into scores of 1,2,3,4, or 5:

Usually Given College Credit	
5	Extremely Well Qualified
4	Well Qualified
3	Qualified
Will be Advised to Retake Calculus I	
2	Possibly Qualified
1	No Recommendation



The AP Calculus BC Exam

In keeping with the characterization of Calculus BC as an extension rather than an enhancement of AB:

- Approximately 60 percent of the exam is composed of AB only topics.
- Students who take the BC exam receive an AB subscore grade that measures their performance on AB topics alone
- It is recommended that colleges and universities apply the same AP policy to the AB subscore grade as they do to the Calculus AB Exam grade.

Notes About Multiple Choice Section

- Total scores on the multiple-choice section of the exam are based on the number of questions answered correctly.
- Points are not deducted for incorrect answers.

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- No points are awarded for unanswered questions.
- If a student finishes Part A before the end of the timed 55 minutes for Part A, he/she cannot begin working on Part B; the student must wait until the beginning of Part B.
- During the timed portion for Part B, students may not go back and work on the problems in Part A.

Notes About Free Response Section

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- If a student finishes Part A before the end of the timed 30 minutes for Part A, he/she cannot begin working on Part B; the student must wait until the beginning of the timed 60 minutes for Part B.
- During the timed portion for Part B, students may keep the green insert and go back and work on the problems in Part A without the use of a calculator. The problems will NOT appear in the Section II exam booklet.
- The two Part A problems will be printed in the green insert.
- The four Part B problems will be printed in a separate sealed blue insert.
- Each part of all 6 problems will have a designated workspace in the exam booklet.



AP Test Tips (by Dan Kennedy)

Show all work.

Remember that the grader is not really interested in finding out the answer to the problem. The grader is interested in seeing if you know how to solve the problem.

Do not round partial answers.

Store them in your calculator so that you can use them unrounded in further calculations.

Do not let the points at the beginning keep you from getting the points at the end.

If you can do part (c) without doing (a) and (b), do it. If you need to import an answer from part (a), make a credible attempt at part (a) so that you can import the (possibly wrong) answer and get your part (c) points.



AP Test Tips (by Dan Kennedy)

If you use your calculator to solve an equation, write the equation first.

An answer without an equation might not get full credit, even if it is correct.

If you use your calculator to find a definite integral, write the integral first.

An answer without an integral will not get full credit, even if it is correct.

Do not waste time erasing bad solutions.

If you change your mind, simply cross out the bad solution after you have written the good one. *Crossed-out work will not be graded*. If you have no better solution, leave the old one there. It might be worth a point or two.



AP Test Tips (by Dan Kennedy)

Do not use your calculator for anything except...

(a) graph functions, (b) compute numerical derivatives, (c) compute definite integrals, and (d) solve equations. In particular, do not use it to determine max/min points, concavity, inflection points,

increasing/decreasing, domain, and range. (For these questions you can CHECK your work with a calculator, but your solution must stand alone.)

Be sure you have answered the problem.

For example, if it asks for the maximum value of a function, do not stop after finding the x at which the maximum value occurs. Be sure to express your answer in correct units if units are given.

If they ask you to justify your answer, think about what needs justification.

They are asking you to say more. If you can figure out why, your chances are better of telling them what they want to hear. For example, if they ask you to justify a point of inflection, they are looking to see if you realize that a sign change of the second derivative must occur.



BLUE = CORRECTION

Top 10 Student Errors (by Dan Kennedy)

#1 Error $f''(c) = 0 \iff (c, f(c))$ is a point of inflection

#2 Error $f'(c) = 0 \iff f(c)$ is a maximum/minimum

#3 Error Average rate of change of f on [a, b] is $\frac{f'(a) + f'(b)}{2}$ Average rate of change = Slope = $\frac{f(b) - f(a)}{b - a}$



BLUE = CORRECTION

Top 10 Student Errors (by Dan Kennedy)

#4 Error
Volume by washers is
$$\pi \cdot \int_{a}^{b} (R(x) - r(x))^{2} dx$$

#5 Error
Wolume = $\pi \cdot \int_{a}^{b} (R(x)^{2} - r(x)^{2}) dx$

Separable differential equations can be solved without separating the variables. If the derivative is in terms of y, you must separate the variable.

#6 Error

Omitting the constant of integration, especially in initial value problems. Always include the +*C* with an indefinite integral. It may be worth a point.

#7 Error

Graders will assume the correct antecedents for all pronouns used in justifications. No using pronouns like the word "it."



BLUE = CORRECTION

Top 10 Student Errors (by Dan Kennedy)

#8 Error

If the correct answer came from your calculator, the grader will assume your setup was correct.

The grader is going to check your work. Make sure to only use the calculator to check the answer

#9 Error

Universal Logarithmic antidifferentiation:

$$\int \frac{1}{f(x)} dx = \ln |f(x)| + C$$
$$\int \frac{f'(x)}{f(x)} dx = \ln |f(x)| + C$$

#10 Error

Chain Rule Errors:

$$\frac{d}{dx}(f(y)) = f'(y)$$
$$\frac{d}{dx}(f(y)) = f'(y) \cdot y'$$

AP Review Expectations

Daily Format

Homework

ime

- Team Test Tuesdays/Thursdays
- Friday Five-Time Quizzes
- AP Practice Exams (1988, 1998, 2003, 2008)
- 5-for-5 Week

Guidelines

- Bring something to the table.
- Don't anticipate. Participate.
- Practice.
- Visualize Dominance of the test.
- Make a game plan for the test.

Events subject to change.

AP Test To-Do's

- Purchase new batteries for your TI-89.
- Bring a back-up TI-83.
- Bring extra writing utensils. Mr. Wells strongly suggests Pencils.
- Bring a government or school ID.
- Bring a silent watch if you don't want to keep looking at the clock on the wall.
- Find a safe place to store cell phones, tablets, etc.
- Bring \$5 for T-shirts (If you have not done so already).
- Get a good night's sleep.
- Eat a healthy breakfast.
- Bring healthy snacks and water to the test.
- Study the derivative/integral formulas.

The AP Test Day Schedule

7:15 AM - Meet in the West Commons for tshirt distribution and 5-Time Pep Rally

7:40 AM - Report to testing rooms

7:55 AM - 5-Time Rally Cheer

8:00 AM - AP Calculus BC Dominance

12:00 PM - Celebrate

Times and events subject to change.