AP CALCULUS EXAM TIPS

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.

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.

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. (You can explore all these with your 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 you can eliminate some incorrect answers in the multiple-choice section, it is advantageous to guess.
Otherwise it is not. Wrong answers can often be eliminated by estimation, or by thinking graphically.

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.

TOP 10 STUDENT ERRORS

1. If $f''(a)=0$, then f has a point of inflection at $x=a$. (make sure f'' changes signs)

2. If $f'(a)=0$, then f has a max or min at $x=a$ and vice versa. (make sure f' changes signs)

3. Average rate of change of *f*(x) on [a, b] is $\dfrac{f'(a)+f'(b)}{2}$ (should be $\dfrac{f(b)-f(a)}{b-a}$ or $\dfrac{1}{b-a}\int_a^b f'(x)\,dx$)

4. Volume by washers is $\pi\int_a^b (R-r)^2\,dx$. (should be $\pi\int_a^b R^2-r^2dx$)

5. Separable differential equations can be solved without separating the variables. (YOU MUST SEPARATE FIRST)

6. Omitting the constant of integration, especially in initial value problems. (Remember the + C)

7. Graders will assume the correct antecedents for all pronouns used in justifications. (don't say "it" in explanations)

8. If the correct answer came from your calculator, the grader will assume your setup was correct. (You must show your set up, the equation solved, the integral entered, etc. before writing the answer)

9. Universal logarithmic antidifferentiation: $\int \dfrac{1}{f(x)}dx=\ln\left|f(x)\right|+c$. (should be $\int \dfrac{f'(x)}{f(x)}dx=\ln\left|f(x)\right|+c$)

10. $\dfrac{d}{dx}f(y)=f'(y)$ and other Chain Rule errors. (should be $\dfrac{d}{dx}f(y)=f'(y)\dfrac{dy}{dx}$)

FINAL CHECKLIST:

I. Calculator:

a. You are allowed two calculators on the test, and make sure one is your graphing calculator. If you can get a second one from a friend, use one for your notes and the other for computations.

b. Make sure your calculator is charged or has fresh batteries. If your calculator does use traditional batteries, bring an extra set to the AP exam in case yours die. It has happened before.

c. If you have notes SHARE THEM! No one should have to type everything into his/her calculator.

II. Writing Utensils:

a. Have several #2 pencils ready to use. Use a dull/rounded one for the MC section. A rounded pencil fills in the bubbles more quickly since it has a wider writing tip.

b. Have good erasers that will completely erase stray marks – especially for the MC section.

III. Tuesday Morning:

a. Eat a good breakfast – you won't be able to think clearly with a growling stomach.

b. GET TO JEFF STATE NO LATER THAN 7:45! I'll be there early if you need to get a calculator from me or if you have any last minute questions.

c. You will have a break between the multiple choice sections and the free response sections. Bring a hefty snack to eat during this time. You do not want to have to sit through 90 minutes of free response questions with a growling stomach.

IV. The Test: Be sure to pace yourself:

a. Section I-A: non-calculator multiple choice. NO PENALTY FOR WRONG ANSWERS!

→ 30 questions, 60 minutes (2 minutes per question)

b. Section I-B: calculator multiple choice. NO PENALTY FOR WRONG ANSWERS!

→ 15 questions, 45 minutes (3 minutes per question)

c. Section II-A: calculator free response

→ 2 questions, 30 minutes (15 minutes per question – only about 1/3 of it *requires* a calculator)

→ If you finish this section with time remaining, start copying some of your notes from your calculator onto the green question sheet…but ONLY if you are COMPLETELY satisfied with your answers.

d. Section II-B: non-calculator free response

→ 4 questions, 60 minutes (15 minutes per question)

→ *you are allowed to continue working on the calculator problems during section II-B even though you don't have your calculator anymore.*