Tips for Taking the A.P. Exam

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.   At least make up an answer from part a so that you can do part b.

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. NEVER ERASE! Erasing takes time.

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.). Exploration on a calculator is NOT a solution.

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.

If a calculation is given as a decimal, it should be correct to three decimal places after the decimal point.
Do not round in intermediate steps before a final calculation is made. You should realize that tracing along a graph to find roots or points of intersection might not produce the required accuracy.

Top Ten Student Errors
(Okay, so I have trouble with Arithmetic)

1. $f''(x) = 0 \Leftrightarrow (x, f(x))$ is a point of inflection.

2. $f(x)$ is a maximum (minimum) point $\Leftrightarrow f'(x) = 0$.

3. Average rate of change of f on $[a,b]$ is $\dfrac{f'(a) + f'(b)}{2}$.

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

5. Omitting the constant of integration, especially in initial value problems.

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

7. $\dfrac{d}{dx}(f(y)) = f'(y)$ and other Chain Rule errors.

8. Omitting the limits of integration.

9. Not considering the end points of an interval (for example, when looking for the absolute maximum value of a function).

10. Giving answers from outside the given interval.

11. Not giving both coordinates of a point when required.

12. Giving both coordinates of a point when only one is asked for; remember, "value of a function" is the y-coordinate, and the "maximum value" refers to the y-coordinate.

13. Having your calculator in degree mode.

14. Not answering the question that was asked even though all the work is correct. If it is a yes or no question, say "yes" or "no."

15. Ignoring units of measure.

16. Don't curve fit. Often, a function is given as a graph or a table of values. You are being asked to demonstrate that you can work from the graphical or numerical data. Do not use your calculator to approximate a function – this is not one of the four allowed calculator operations.

17. Using a built-in calculator utility or a program without showing the work. You may do only the four things listed above without further explanation.

Adapted from Dan Kennedy and Lin McMullin