

## Facts About the AP Examination

The Advanced Placement Examination is a *four* part examination that takes 3 hours and 15 minutes. Section I Part A is multiple choice and does *not* allow the use of a calculator. Section I Part B is multiple choice and *requires* the use of a graphing calculator. Section II Part A is a free-response test and *requires* the use of a graphing calculator. Section II Part B is a free-response test and does not allow the use of a calculator. In the scoring process, Section I and Section II are weighted equally. In the grading of Section II, partial credit is given.

### Multiple Choice Sections

On the multiple choice section of the test where calculators are allowed, you may make full use of your calculator. All multiple choice questions count equally. There is only one correct answer. Each wrong answer counts one-fourth off, which statistically nullifies any benefit from blind guessing.

### Free Response Section

All free response questions count equally, though they may be made up of several parts which do not count equally. You may be required to write a few sentences of explanation with your answer.

Unless otherwise specified, answers do *not* need to be simplified numerically or algebraically. An answer of  $\frac{2}{4} + 16 - 0.54$  will receive full credit. Likewise an answer of  $x^2 - (3x + 4x^2) + 8x$  will receive full credit. A decimal answer must be rounded to the nearest thousandth. Be careful *not* to round preliminary values, only the final answer.

It is extremely important that you learn the five rules below for use of your TI-89 calculator on the free-response portion of the test. Calculators may be used to:

1. Produce the *graph* of a function within an arbitrary viewing window. (That does NOT include taking any numerical information off the graph, such as zeros, max, min, inflection.)
2. Find the *zeros* of a function or *solve* an equation.
3. Compute the *numerical derivative* of a function at a given point.
4. Compute the *definite integral* of a function over a closed interval.
5. Perform the types of calculations done on a scientific calculator.

If the calculator is used to obtain a solution in one of the first four ways listed above, you are required to write only the setup (a function, an equation, a derivative, or a definite integral) that leads to the solution, along with the result produced by the calculator. Your setup must be expressed in normal mathematical notation, not calculator symbolism.

In all other situations, you are required to show the complete set of mathematical steps leading to the solution. For example, if a question asks you to find the minimum value of a function, you must find the derivative by hand and set the derivative equal to zero. Then you may use the calculator to solve the resulting equation and write down the result. Finally, you must employ the first or second derivative test to justify that this critical point is indeed a minimum. You may want to *check* your answer by graphing the function and asking the calculator to find the minimum point on the graph. But this method cannot replace the work described above.