Test #3 will be given on Thursday April 9th.
It will include material from Sections 4.1 -- 4.7 Plus 25 Points directly from your test II).

IMPORTANT REMINDERS

MAKEUP POLICY: If you know in advance that you have to miss a quiz or test, you can make arrangements with me to take the quiz or test **before** it is given in class. Otherwise, no makeup quizzes will be given. If you miss an hour test, it may be made up only if you
* Do not have more than one unexcused absence during the time period covered on the test.
* Contact me on or before the scheduled test date.
* Can prove that you have a legitimate excuse.
* Show me all homework on the relevant material.

If you do not meet these conditions, you will not be permitted to take a makeup test and the percentage equivalent of your final exam grade will be substituted for the grade of the missed test. No student will be permitted to take more than one makeup test.

ACADEMIC HONESTY: All students are expected to do their own work on quizzes and tests. Students are expected to observe the following rules during any test or quiz.
* Students may not use or even hold a cell phone or any other electronic device.
* Students may not speak to or share materials with other students.
* Students should have all materials ready at the beginning of the quiz or test.
* Students should remain in the room during the entire test or quiz.
Appropriate penalties will be imposed for breaches of academic honesty.

If you have documentation showing that you require extended time for tests, you must discuss this with me at least two days before the scheduled test date.

To be prepared for this test, you should be able to
* Find derivatives using rules of differentiation, including the product, quotient and chain rules.
* Solve problems involving tangent lines and slope.
* Use the first derivative to find critical points of a function, determine where a function is increasing or decreasing, and where it has a relative maximum or minimum
* Use the Second Derivative Test to determine whether a function has a relative maximum or minimum at a critical point
* Set up and solve optimization problems
* Find the derivative of functions involving $e^x,\ e^{g(x)},\ \ln x,\ and\ \ln(g(x))$

TO PREPARE FOR THIS TEST,

✱ Make sure that you can do all homework and worksheet problems.
✱ Read your textbook and go over your notes.

OVER→

✱ Make sure you know all the important formulas and properties.
✱ Do the following supplementary exercises and additional review problems.

Suggested Supplementary Exercises
Please review worksheets 4.1 -- 4.6 from our course website.
And review your Quizzes 4, 5 and 6.

Additional Review Problems:

1. Let $f(x) = 7e^x$

(a) Find $f'(x)$.

(b) Write the equation of the tangent line to this function when x = 0 on the curve.

2. Find $f'(x)$ if $f(x) = e^x + x^e + e^e$

3. Let $f(x) = x^5 e^{4x}$.

(a) Find $f'(x)$.

(b) Find the critical numbers of $f(x)$.

(c) For each critical point you found in part (b), use the First Derivative Test to determine whether $f(x)$ has a relative maximum, a relative minimum, or neither at that point.

You can get extra help from me, or by going to the **Math/Science Center.**

Answers

	Additional Review Problems
	1. (a) $7e^x$ (b) y = 7x + 7
	2. $e^x + ex^{e-1}$
	3. (a) $4x^5 e^{4x} + e^{4x} 5x^4 = e^{4x} x^4 (4x+5)$
	(b) x = -5/4, x = 0
	(c) Relative minimum at x = -5/4,
	neither at x = 0