Final Preparation

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Final Preparation

Perparation for final: Be sure to download the study guide for the final and note the sections to focus on (e.g., ignore 4.3, 5.1, 5.2). Be prepared to do:

- Integration (power rule, substitution) – you'll have time to check these using differentiation!
- Related Rates
- Optimization
- Use of First and Second Derivative Test
- Derivatives of trig functions, inverse trig functions, log and exponential functions
- Use of derivative to find equations of tangent lines
- Limits (using analytical methods and L'Hôpital's)

Preparation for final:

- In general, anything that is on the study guide is fair game!!!
- WATCH YOUR NOTATION!!!! (e.g., limit notations, derivative notation, integral notation, etc.)
- WATCH YOUR DIRECTIONS!!!!! (e.g., finding limits analytically)
- CHECK YOUR WORK!!!!! (You should have time!!)

A good place to start is reworking problmes from the 5 exams (4 hourly tests plus midterm). This gives you a wide (yet still incomplete) scope of the problems we have done.

Other things you can do to prepare for the final:

- Examine the Study Plan on Mylabsplus to see areas where you struggled on Computer HWs
- Review Completed Paper HWs (or finish paper HWs!)
- Go back over problems worked in class, on quizzes, and on drill exercises

About the Test

- It is cumulative!!! However, the course has built to this point, so expect more from material since the midterm than before.
- 20 questions in 2 hours
- Grades should be completed by the end of the week (Friday, 13 May PM)

Advice for the FINAL

- $+C$s, dxs, $\lim$, units, etc. should be included in your answers *or else*. Don't try to round answers unless it is for a story problem, in which case, you should say "approximately".
- "Definition of Derivative" = the definition with limits
- Practice limits and l'Hôpital's Rule so you know which is the quickest technique.
- "Mean Value Theorem for Derivatives" = MVT from §4.6.
- $\arctan = \tan^{-1}$, etc.
- Use the Continuity Checklist for questions about continuity.
- Use limits for questions about vertical asyptotes and end behavior.

Exercise (s)

1. Find the 101st derivative of $y = \cos 7x$ at $x = 0$.
2. For what values of the constants a and b is $(-1, 2)$ a point of inflection on the curve $y = ax^3 + bx^2 - 8x + 2$?