MATH 122B & 125 FINAL EXAM INFORMATION – FALL 2013

PROCEDURES

- The final exam is on Monday, December 16 from 1:00 – 3:00 pm. Do not be late. You will not be given additional time if you arrive after 1:00 pm. We recommend arriving 15 minutes early.
- If you use DRC testing accommodations, you should arrive 15 minutes early to the testing room at the DRC.
- The final exam is not given in your usual classroom. You will find the room assignments at http://math.arizona.edu/academics/courseinfo/common/#.You will not be allowed to take the final in a room other than the one assigned to your section.
- You will not be allowed to leave the exam room until 2:00 pm.
- Because several sections will be in the same room, students in each section will need to sit together. Additional directions will be given at the test site.
- You are not allowed to use your own paper. If you need additional space for a solution, you must use paper provided by the proctors.
- All cell phones and electronic devices that transmit wirelessly must be turned off during the exam. Vibrate or silence modes are not allowed. Laptops, iPods, language translators, or any devices that can receive a wireless signal are not allowed.
- Bring your graphing calculator. Models that can perform symbolic calculations (also known as CAS) are NOT allowed on final exam. CAS models include (but are not limited to) the TI-89,TI NSpire CAS, HP 50g, and Casio Classpad 330. Students are not allowed to share calculators during the exam.
- Bring a picture ID.

ABOUT THE FINAL EXAM

- The final exam study guide and an additional practice sheet are posted on the Calculus home page at http://math.arizona.edu/~calc. Although the questions in the guide are not samples of actual exam questions, they provide an excellent review of the topics that are covered on the exam. Problems at the end of each chapter in the Review Exercises can also provide review.
- There will be 14-16 problems on the exam. The point values for each question will vary and some may have parts. The values will be listed on the cover sheet of your exam.
- No formula sheets or notes are allowed.
- In most problems you must show all work to get credit. Your final answer must also be a result of your work. If you obtain a correct answer that does not follow from your work, you will not receive credit for that answer.
- Some problems might have a multiple choice or short answer. These are graded with no partial credit.
- If a problem has the instruction “set up only”, you do not need to simplify your set up but your set up should be complete.
- You should not use approximation techniques unless specifically told to do so. For example: do not use the built-in numerical integration feature on your calculator if the Fundamental Theorem can be used to evaluate a definite integral. The word “exact” is added to some problems for extra emphasis to remind you that you should not be making an approximation.

- Answers should be in exact simplified form whenever possible. For example: do not write 0.693 if your answer is $\ln 2$ (more decimal places won't help either). On the other hand, you should write 1 if your answer is e^0.
- When only an estimate is possible you should clearly show how you obtained your estimate. You should also be able to determine if your estimate is larger or smaller than the true answer, when possible.
- Knowledge from chapter 1 has been used throughout this course. For example: you have used properties of logarithms, solved trigonometric equations, and set up formulas for functions based on given information. Domain, limits, composition, inverses, and transformations have also been relevant.
- Questions could incorporate information across several chapters. For example: a table, graph, or equation of a function could be given and you need to consider both slopes of tangent lines and area under the curve.
- You need to know the six trigonometric values of the special angles. For example: you need to write $-\sqrt{2}/2$ or $-1/\sqrt{2}$ if your answer is $\cos(5\pi/4)$.
- You need to know the following geometry formulas: area of a circle, rectangle, and triangle; circumference of a circle, perimeter of a rectangle; volume of a rectangular box, cylinder, cone, and sphere; surface area of a rectangular box and the lateral surface area of a cylinder.
- You need to know how and when to use the Pythagorean Theorem.
- The following function types can appear: polynomial, rational, exponential, logarithmic, trigonometric (all six), inverse trigonometric (arcsin, arctan), absolute value, piecewise, proportionality equations, and implicitly defined.
- Functions can be given in any form: tables, graphs, equations, words.
- Equations and functions could also include parameters.
- You need to be able to make practical interpretations and geometric interpretations for expressions.
- You need to recognize the definitions of $f'(a)$, $f'(x)$, and $\int_a^b f(x)dx$.
- You need to know terminology such as difference quotient, average function value, rate of change, average rate of change, differentiable, critical point, local extrema, global extrema, local linearization, Riemann sum, and initial value problem.
- You need to know the L'Hopital's Rule, Mean Value Theorem, and Fundamental Theorems of Calculus.
- You need to know how and when to use the method of substitution for finding antiderivatives.
- You need to know and to use proper notation. For example: you should know the difference when you write $\frac{d}{dt}\left(t^3\right) = 3t^2$ versus $\frac{dy}{dt} = 3t^2$.
- You need to be able to find the left hand sum and right hand sum for small *n*.
- The Left/Right Sums program or a numerical integration utility is relevant for the course, but there will be no problems that require their use. The numerical integration feature of your graphing calculator will not be used.
- You need to know when an approximation using a tangent line produces an overestimate or underestimate.
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