

## MATH 124 & 125 FINAL EXAM INFORMATION – SPRING 2009

### PROCEDURES

- The final exam is on Monday, May 11 from 2:00 – 4:00 pm. Do not be late. You will not be given additional time if you arrive after 2:00 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/~courseinfo/common/#examlocations>. 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 3:00 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.
- All cell phones and electronic devices such as PDAs/ ipods must be turned off during the exam. Vibrate or silence modes are not allowed. Laptops are not allowed.
- Bring your graphing calculator. Any model is allowed on the final exam. You will not be allowed to borrow or share a calculator.
- Bring a picture ID.

### ABOUT THE FINAL EXAM

- The final exam study guide is posted 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 and Check Your Understanding sections can also provide extra practice and review.
- There will be 14-16 problems on the exam. The point values for each problem will vary. The values will be listed on the cover sheet of your exam.
- No formula sheets or notes are allowed.
- Some problems or parts of problems might have the instructions “set up only”. Although you do not need to simplify your set up, the set up should be complete.
- A few questions might have a multiple choice, short answer, matching, or True/ False format. These formats are usually reserved for answers that would normally be marked as all right or all wrong.
- Except where noted, you must show all work to get credit. Your final answer must also follow from your work (even if your answer is correct).
- You should not use approximation techniques unless specifically told to do so. For example: don't 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 to remind you that you should not be making an approximation.
- Answers should be in exact form when an exact form is available. For example: don't write 0.693 if your answer is  $\ln 2$  (more decimal places won't help either).
- When only an estimate is possible (For example: you are given a sketch of a graph and asked to estimate the area below the graph) 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.

- Questions only covering the material in chapter 1 are rarely asked, but all the information in chapter 1 is relevant for the exam. For example: you need to know properties of logarithms and you should be able to set up an equation of a function based on given information.
- 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.
- You need to know the trigonometric values of the special angles. For example: we expect you to write  $\cos(5\pi/4)$  as  $-\sqrt{2}/2$  or  $-1/\sqrt{2}$ .
- 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; Pythagorean Theorem.
- Any function type can appear on the exam: polynomial, rational, exponential, logarithmic, trigonometric (all six), inverse trigonometric (arcsin, arctan), hyperbolic (cosh, sinh), absolute value, piecewise, implicitly defined, and parametric.
- Functions can be given in any form (tables, graphs, equations, words). Equations could also include parameters.
- You need to be able to make practical interpretations and geometric interpretations for expressions.
- You need to know 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, differentiable, smooth, local extrema, global extrema, method of substitution.
- You need to be able to find the left hand rule and right hand rule for small  $n$ .
- The Left/Right Sums program (or ALLSUMS) is relevant for the course, but there will be no problems that specifically require the use of the program. Calculator programs are available at <http://math.arizona.edu/~calc>.