

Math 1210 Final Review

About the test: No notes. No cell phones. No calculators. You must show your work to get credit. Simplify your answers as far as possible. Points are taken off for rounding and labeling errors. Seating during the test is every other seat. There are two sections of this class, so don't talk to anyone about the test until both sections have taken it.

There are no test corrections on the final.

You may not take the final at any other time than when your OWN section is scheduled without instructor consent and payment of a fee to the cashier's.

The grading scale is non-negotiable, no matter how desperate you are for a better grade. Grades are based on performance, not on need. I hope you pass, but if you don't, I encourage you to retake the class right away while the material is fresh in your mind.

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|----|----------|----|---------|----|---------|
| A | 93%-100% | B- | 80%-82% | D+ | 67%-69% |
| A- | 90%-92% | C+ | 77%-79% | D | 63%-66% |
| B+ | 87%-89% | C | 73%-76% | D- | 55%-62% |
| B | 83%-86% | C- | 70%-72% | F | 0%-54% |

| Date | Lecture Topic | Assignment Due (due by 5pm) |
|---------------|---|--|
| Apr 24 | Review | Reminder: Complete online evaluations |
| Apr 25 | Help Session | Reminder: Complete online evaluations |
| Apr 26 | Review | 6.8, Reminder: Complete online evaluations |
| Apr 27 | Review | Final Extra Credit Review Part I Reminder: Complete online evaluations |
| | | |
| Apr 30 (Mon) | Help Session same time as class in 129 Sc | Study Day |
| May 1 (Tues) | Help Session 3-4 in Sc 129 | Final Extra Credit Review Part II due 5pm |
| May 2 (Wed) | Help Session 3-4 in Sc 129 | |
| May 3 (Thurs) | 9:00 Section ONLY Final 9-10:50am in Sc 129 1:00 Section ONLY Final 1-2:50pm in Sc 129 | Note: You may not take the final at any other time than when your section is scheduled without instructor consent and payment of a fee to the cashier's. |

Get your sleep—you need a clear mind.

What to study

- match important theorems and definitions with a paraphrased version or a description of how they are used (worksheet to come later)
- find limits given a graph or a formula
- determine whether a function is continuous looking at its graph or its formula
- prove the existence of a solution using the IVT (I will be picky about form)
- find the derivative of a function using the definition (memorize the definition)
- determine whether a piecewise function is continuous and/or differentiable
- find lots and lots of derivatives! (memorize the basic ones, including powers, sine, cosine, secant, tangent, natural log, exponential, inverse sine, inverse tangent)
- calculate higher derivatives
- find the tangent line to a curve at a particular point
- product rule, quotient rule, chain rule
- related rates (hurrah—you get another chance!)
- implicit differentiation
- L'Hopitals for $0/0$ or ∞/∞ or $\infty(0)$
- determine increasing/decreasing, concavity, critical points, inflection points, relative and absolute extrema given a graph or formula for a function
- what positive/negative f, f', f'' signify
- sketching polynomial functions using the derivatives
- finding absolute extrema on a closed interval
- optimization (let's ace these!)
- rectilinear motion (be careful with labeling) (memorize relationships of position, velocity, and accelerations, as well as the two main equations used with constant acceleration) (acceleration due to gravity provided)
- integrals and definite integrals and their applications
- substitution, substitution, substitution
- initial value problems
- summation notation (formulas on page 376 provided)
- relating definite integrals and areas
- using the FTC, both parts

Extra Credit Review Part I (15 points) Due Friday, April 27, by 5pm

- 2.1: Quick Check 2; Exercise 1
- 2.2: Exercises 4,7,15-17,28,29
- 2.3: Quick Check 1; Exercises 3,7,10,15,16,33,43,44,51
- 2.5: Exercises 12-14,22,26,43
- 2.6: Exercises 18-20,35,36,75a
- 3.2: Exercises 9,43,44
- 3.3: Exercises 6,7,9,10,18,33,37a,39a,42b,62
- 3.4: Exercises 8,12,13
- 3.5: Quick Check 1; Exercises 5,8,24,26c
- 3.6: Exercises 8,11,15,16,22,32,40,46
- 3.7: Exercises 15,18,20,25

Extra Credit Review Part II (15 points) Due Tuesday, May 1, by 5pm

- 4.1: Quick Check 1bd; Exercises 3,12
- 4.2: Quick Check 1; Exercises 2,4,10,12,14,21,24
- 4.3: Exercises 12,14,17,21,34,37,44
- 4.4: Exercises 5-8,11,12,14,17,19,22
- 5.1: Exercises 3,7,14
- 5.2: Exercises 3b,45,48
- 5.4: Exercises 10,13
- 5.5: Exercises 3,5,19
- 5.8: Quick Check 2; Exercises 15abc,29a,31a
- 6.2: Quick Check 3; Exercises 10,19,22,33,43a
- 6.3: Exercises 9,10,29,20,32,33,48
- 6.4: Exercises 1ef,2c,5,8,16,20,25,26
- 6.5: Exercises 11c,14,17
- 6.6: Exercises 1a,6,10,14,21,22,25,44,55
- 6.7: Exercises 1,6,17a,37,39a,43bef
- 6.8: Exercises 22,36,40,41,44,47

Good luck!