
Math 112: Calculus B Final Exam Information

For each topic/section listed below, I recommend reviewing the in-class worksheets posted on the Course Schedule page, practice problems, and homework problems. In addition to the topics and problems listed below, you should make sure to review your old quizzes and tests.

1. Evaluation of integrals (substitution, integration by parts, partial fractions). Review the practice and homework problems from sections 5.4, 8.1, and 8.2. Also review the Gateway Exam practice problems. The following problems are also useful for reviewing integration:
 - Chapter 5 Summary problems: 26, 27, 30, 31, 32, 33, 35, 37, 39, 40, 41, 43, 45, 47.
 - Section 8.4: 1-3, 5-15, 19-22, 28, 31, 32, 41, 44, 47
2. Applications of integration (sections 7.1 and 7.2): Area between curves, Volumes, and Arc Length.
3. Separable differential equations (section 7.4).
4. Sequences (section 11.1). l'Hopital's rule. Squeeze Theorem. Review the *Sequences Practice Problems* worksheet.
5. Series (sections 11.1, 11.2, 11.3, and 11.4). Ratio Test, Test for Divergence, Alternating Series Test, p-Test, Comparison Test, Integral Test, partial sums, geometric series. Review the worksheets *Intro. to Series Practice Problems* and *More Series Practice Problems*.
6. Power series (sections 11.5 and 11.6). Review the *Power Series Practice Problems*, *Power Series as Functions, Part 1*, and *Power Series as Functions, Part 2* worksheets and practice/homework problems.
7. Taylor and Maclaurin series (section 11.7). Review the *Taylor and Maclaurin Series* worksheet and practice/homework problems. You may use the *Some Important Maclaurin Series* worksheet on the final exam.
8. The following are useful review problems for Chapter 11:
 - Chapter 11 Summary problems: 1-8, 10, 13, 15, 16, 19, 21, 25, 33 (for 10-33 problems, just determine whether the given series converges or diverges), 37-53, 59, 60, 61, 62, 64, 65(a)
9. Taylor polynomials and error bounds (sections 9.1 and 9.2). Review the *Taylor Polynomials* and *Error Bounds for Taylor Polynomials* worksheets. The error bound formula will be provided on the final exam.