

## Review For the Final—Math 122

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The final is on Thursday, May 4, 6-9pm. It is comprehensive and it covers the following sections: 7.1-7.5, 7.7, 8.1-8.5, 8.7, 8.8, 11.1-11.9. The best way to review for the final is to review the previous tests and quizzes, the homework problems (especially the collected ones), and the examples in the lecture (or the textbook). The following is a list of sections that we covered in the lectures. You should at the minimum review the listed homework problems.

- §7.1 Inverse function and their derivatives. HW: 28, 31.
- §7.2 Natural logarithms. HW: 43, 65.
- §7.3 Exponential functions. HW: 34, 55, 63.
- §7.4 Exponential and logarithmic functions with general bases. HW: 43, 53, 63.
- §7.5 Exponential growth and decay. HW: 8, 18, 21.
- §7.7 Inverse trigonometric functions. HW: 70, 89, 95.
- §8.1 Basic integral formulas. HW: 5, 20, 39.
- §8.2 Integration by parts. HW: 5, 16, 25.
- §8.3 Partial fractions. HW: 11, 25, 33.
- §8.4 Trigonometric integrals. HW: 11, 29, 33.
- §8.5 Trigonometric substitutions. HW: 16, 19, 29.
- §8.7 Numerical integration. HW: 7, 25.
- §8.8 Improper integrals. HW: 17, 25, 41, 51.
- §11.1 Sequence. HW: 41, 65, 80, 81.
- §11.2 Infinite series. HW: 13, 15, 34, 37.
- §11.3 The integral test. HW: 9, 22, 39.
- §11.4 Comparison tests. HW: 4, 12, 13, 25, 33.
- §11.5 Ratio and root tests. HW: 11, 18, 23, 26, 37.
- §11.6 Alternating series. HW: 6, 23, 26, 37.
- §11.7 Power series. HW: 11, 25, 30, 37, 41.
- §11.8 Taylor and Maclaurin series. HW: 7, 13, 25, 33.
- §11.9 Convergence of Taylor series. HW: 1, 6, 13, 19, 23.