

Math 106 Sections C and D

Review for Test 1

Test 1 is on Friday, February 3 during class time.

Review Session conducted by Eric Towne is on Wednesday, February 1, 7 p.m. (Pettengil G21)

The test will cover sections 5.4, 6.1-6.3, interlude on Simpson's rule, 7.1-7.4, 8.1-8.2, labs one and two.

Here is a list of problems that you can use for practice for the test. This does not mean that the test problems will be a subset of these problems. The list is meant to help you prepare for the test and to remind you of some of the concepts we have covered. This review sheet is a supplement to the review sheet that will be posted on Eric's website at <http://abacus.bates.edu/~etowne/mathresources.html> (under Old Bates exams in the Math 106 column). We will also do additional review problems in class on Wednesday and Thursday from the sections covered recently.

1. Page 367: 41-44, 50, 51.
2. Page 393: 35-38. (These problems refer to the function h described just above these problems. For problems 35 and 36, use the error bound theorem to find an error on the bound. That will help.)
3. Page 401: 15 (a, b).
4. Pages 420-421: 7, 41.
5. Pages 429-431: 13 ($y = x^3$ and $y = x + 6$ intersect at the point $x = 2$), 15, 25, 31, 37, 49.
6. Page 438: 5, 17.
7. Let $I = \int_0^2 e^{x^2} dx$.
 - (a) Compute L_{20} , R_{20} , M_{20} , T_{20} . Which of these quantities are underestimates? Which of these quantities are overestimates? Explain.
 - (b) What is the least value of n which guarantees that L_n approximates I within ± 0.001 ? Justify your answer.
 - (c) Compute L_n for the value of n you found in part (b). What can you say about the value of I ?