

Math 125 End of Week 7 Newsletter

UPCOMING SCHEDULE:

Friday: Section 7.8 & 8.1 (Improper Integrals and Arc Length)
Monday: Section 8.1 (Arc Length) and Exam Review
Tuesday: HW Q & A and Exam Review
Wednesday: Exam 2 Review (come to any lecture or office hours and bring questions!)
Thursday: **Midterm 2**
Friday: Section 9.1 (Intro to differential equations)

Worksheet 6 (Partial Fractions) Solutions: <http://www.math.washington.edu/~m125/outline6.php>
Worksheet 7 (Integration Techniques) Solutions: <http://www.math.washington.edu/~m125/outline7.php>
Worksheet 8 (Supplement on Comparison Test and Approximating for your own interest):
<http://www.math.washington.edu/~m125/Worksheets/Improper.pdf>

HOMEWORK:

Closing Wednesday at 11:00pm: HW_7A, 7B, 7C (covers 7.8 and 8.1), complete by now!
HW_5C: median score = 96%, median time students had browser open to assignment = 188 minutes
HW_6A: median score = 100%, median time students had browser open to assignment = 135 minutes
HW_6B: median score = 100%, median time students had browser open to assignment = 65 minutes
HW_6C: median score = 98%, median time students had browser open to assignment = 152 minutes

HOMEWORK COMMENTS AND HINTS:

On HW_7A:

For ALL problems in this section:

Step 1: Rewrite as a limit. You will have a variable (I use "t") in the bounds.

Step 2: Evaluate the integral using all our integration techniques. Your answer will involve "t".

Step 3: Take the limit. See review sheets and posted lecture notes for a limits review if you need it.

On HW_7B:

On Problems 3 and 4, set up the integral for arc length. Expand out what is under the radical. What you get will factor! It isn't an obvious factoring, but look for it and you can see it (it will look a lot like what you just expanded)!

On HW_7C: Should be three quick applications.

Note: You will use the arc length formula in problem 2 a lot in Math 126.

NEW POSTINGS

Here, again, is the course website: <http://www.math.washington.edu/~aloveles/Math125Spring2016/index.html>

You need to practice, practice, practice integrating. To help you do this, I have made several lists of practice problems:

1. **Here is a brief review of Midterm 2 topics:** I wrote this a few years ago. It gives a quick review of topics, but I have posted much better and more detailed reviews for specific topics elsewhere on my website (for example you can find a lot better review of work in my other postings):

<http://www.math.washington.edu/~aloveles/Math125Spring2016/Exam2Review.pdf>

2. **Brief 7.7 and 7.8 review sheet** (approximation and improper integrals):

<http://www.math.washington.edu/~aloveles/Math125Spring2016/EndOfChapter7.pdf>

I posted these things last week, but I want to provide the links again in case you haven't checked them out.

1. **30 Random Integrals Directly from Old Exams:**

<http://www.math.washington.edu/~aloveles/Math125Spring2016/30RandomIntegralsFromOldSecondMidterms.pdf>

Comments and answers:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/30RandomIntegralsSolns.pdf>

2. 11 Practice Problems from an old lecture review I once used:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/7-5IntegralsReview.pdf>

Here are my full solutions:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/7-5IntegralsReviewSolns.pdf>

3. 12 Practice Problems that I wrote up a few years ago:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/12IntegraleexamplesFirstPage.pdf>

Here are my full solutions:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/12integraleexamplesSolns.pdf>

4. Quick Summary Lecture Overheads about all integration techniques:

http://www.math.washington.edu/~aloveles/Math125Spring2016/7-5_OverheadsForReviewOfIntegration.pdf

5. Flowchart I created to organize the methods on one page:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/Integration%20Methods%20Flowchart.pdf>

6. List of the essential integrals you need to know:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/7-5IntegralsWeKnow.pdf>

7. A full review of all integration methods:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/IntegrationTechniques.pdf>

OLD EXAMS:

The math departmental exam 2 archive is here: <http://www.math.washington.edu/~m125/Quizzes/Q8.php>

My personal exam archive is here:

<http://www.math.washington.edu/~aloveles/Math125Spring2016/LovelessExamArchive.html>

Here are some targeted practice problems from old exams on the current material:

for practice using Section 7.7 material (Approximating):

Problem 5: http://www.math.washington.edu/~m125/Quizzes/week8/win16_pollack_2.pdf

Problem 4: http://www.math.washington.edu/~m125/Quizzes/week8/win13_mid2.pdf

Problem 3b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/w11m125ce2.pdf>

Problem 4b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/sp13m125e2.pdf>

Problem 3b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/w15m125e2.pdf>

for practice using Section 7.8 material (Improper):

Infinity in bounds:

Problem 1b: http://www.math.washington.edu/~m125/Quizzes/week8/win16_ostroff_2.pdf

Problem 3: <http://www.math.washington.edu/~m125/Quizzes/week8/mid2p.pdf>

Problem 4a: <http://www.math.washington.edu/~aloveles/Math125Spring2016/w11m125ce2.pdf>

Problem 3b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/sp13m125e2.pdf>

Discontinuity between bounds:

Problem 5: http://www.math.washington.edu/~m125/Quizzes/week8/win13_mid2.pdf

Problem 4b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/w11m125ce2.pdf>

Problem 4b: <http://www.math.washington.edu/~conroy/m125-general/exams/mt2-wi08.pdf>

Problem 4: <http://www.math.washington.edu/~m125/Quizzes/week10/125finalW16.pdf>

Problem 3: <http://www.math.washington.edu/~m125/Quizzes/week10/125finalSp15.pdf>

for practice using Section 8.1 material (Arc length):

Problem 3b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/w11m125ce2.pdf>

Problem 4a: <http://www.math.washington.edu/~aloveles/Math125Spring2016/sp13m125e2.pdf>

Problem 3b: <http://www.math.washington.edu/~aloveles/Math125Spring2016/w15m125e2.pdf>

And there is plenty more practice in the exam archive and elsewhere on my website.

Look at old midterms and old finals! I hope some of this helps.

Dr. Andy Loveless