

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 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 8.3 (center of mass)

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: HW_7A, 7B, 7C (covers 7.8, 8.1), complete this weekend!
Last year's data:
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.

NEW POSTINGS

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

1. **Brief 7.7 and 7.8 review sheet** (approximation and improper integrals):
<http://www.math.washington.edu/~aloveles/Math125Winter2017/EndOfChapter7.pdf>
2. **30 Random Integrals Directly from Old Exams:**
<http://www.math.washington.edu/~aloveles/Math125Winter2017/30RandomIntegralsFromOldSecondMidterms.pdf>
Comments and answers:
<https://sites.math.washington.edu/~aloveles/Math125Spring2017/30RandomIntegralsSolns.pdf>
3. **11 Practice Problems from lecture review:**
<http://www.math.washington.edu/~aloveles/Math125Winter2017/7-5IntegralsReview.pdf>
Here are my full solutions:
<http://www.math.washington.edu/~aloveles/Math125Winter2017/7-5IntegralsReviewSolns.pdf>
4. **12 Practice Problems that I wrote up a few years ago:**
<http://www.math.washington.edu/~aloveles/Math125Winter2017/12IntegraleexamplesFirstPage.pdf>
Here are my full solutions:
<http://www.math.washington.edu/~aloveles/Math125Winter2017/12integraleexamplesSolns.pdf>
5. **Flowchart I created to organize the methods on one page:**
<http://www.math.washington.edu/~aloveles/Math125Winter2017/Integration%20Methods%20Flowchart.pdf>
6. **List of the essential integrals you need to know:**
<http://www.math.washington.edu/~aloveles/Math125Winter2017/7-5IntegralsWeKnow.pdf>
7. **A full review of all integration methods:**
<http://www.math.washington.edu/~aloveles/Math125Winter2017/IntegrationTechniques.pdf>

This quarter Exam 2 covers:

- 6.4: Work
- 6.5: Average Value
- 7.1-7.5: All integration Techniques
- 7.7: Approximating Integrals (Left endpoint, Right endpoint, midpoint, trapezoid, simpsons)
- 7.8: Improper Integrals
- 8.1: Arc Length

Expect several pages on integration!!!

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/Math125Winter2017/LovelessExamArchive.html>

Here are some targeted practice problems from old exams on the current material (see previous newsletters for practice on previous topics):

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>

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