Math 125 End of Week 1 Newsletter

Every Friday, I will email the class or post a newsletter.   These newsletters and emails will contain a summary of the calendar, information about homework, links to review material and studying advice. The studying advice will include old exam problems to look at each week. **It is vital that you spend some time each week reviewing homework and practice your homework stills on similar old exam problems**. If you find something helpful here, please advertise to your classmates.

UPCOMING SCHEDULE:
Friday: Section 5.1/5.2 (Riemann Sums and the Definite Integral)
Monday: Section 5.2/5.3 (The Fundamental Theorem of Calculus (FTOC) Parts 1 and 2)
Tuesday: Homework discussion and test prep (bring lots of homework questions!)
Wednesday: Section 5.3/5.4 (Net Change and Total Change and using the FTOC)
Thursday: Fundamental Theorem of Calculus Worksheet:
                       http://www.math.washington.edu/~m125/Worksheets/Fundamental.pdf
Friday: Section 5.5 (Our First and Most Important Integration Method: Substitution)

GENERAL DEPARTMENTAL COURSE MATERIALS:
Remember that all general course information, worksheets solutions, calculator policies, etc… can be found on the math department's course website here: http://www.math.washington.edu/~m125/
In particular, solutions to worksheet 1 will appear in the week 1 outline over this weekend.
The week one outline is here: http://www.math.washington.edu/~m125/outline1.php

HOMEWORK:
 Closing Wednesday at 11:00pm: HW_1A, HW_1B, HW_1C (These cover 4.9, 5.1, and 5.2)

HOMEWORK HINTS:
You should always read through ALL the homework as soon as it become visible so that you can familiarize yourself with all the problems and immediately ask if you have questions about how to start a problem. In most assignments this quarter, there will be several applied or supplemental problems for you to practice, review, and apply what you know. It is smart to read these applied problems as soon as you can and make sure you ask if you have set up questions. In particular,

a) *The last problem in HW_1A*. Watch out for the units (you need to start with some conversion).
    Note: acceleration = a(t) = "the constant they give you", so you can do antiderivatives to get v(t) and d(t). (Note that v(0) = 0, and d(0) = 0).
    Figure out when v(t) reaches the cruising speed. That time is essential to answering the question.
    Also figure out the distance, d(t), that goes with this time.
    Once you have these numbers, you can quickly answer all the questions, but you have to think about what it is asking and reason out your solutions (but there is not much work to do beyond what I have already mentioned).
b) The last three problems in HW_1B have to do with the notation of Riemann sums. I will do an example somewhat like this on Friday or Monday in lecture, but make sure to also ask in quiz section. It is most important that you can actually compute a Riemann sum for a specific value of "n", but it is nice to be able to read the notation as well.
c) The last problem in HW_1B has to do with actually adding the sum (it is the cubic we did in class). Remember that I posted a fairly complete outline of the solution in one of my review sheets, which I will show you briefly in lecture.

NEW POSTINGS

I will be creating many new postings each week, please take some time to look at them to see if they will help you. Here is the course website:

These are all original review sheets written by me. I have just written some of these so beware of typos (but I have gone through a couple edits so hopefully I caught most the typing errors).
There are several new postings:

1. **Full overview of Chapter 5 (some of this is ahead of us)**:
   http://www.math.washington.edu/~aloveles/Math125Winter2017/Chapter5.pdf
2. **Full Overhead Summaries of Riemann Sums:**
   http://www.math.washington.edu/~aloveles/Math125Winter2017/5-1RiemannApproximationStepsOverhead.pdf
3. **Basic List of Most of the Antiderivatives we know now**:
   http://www.math.washington.edu/~aloveles/Math125Winter2017/4-9BasicAntiderivatives.pdf
4. **The example from lecture on Riemann Sums (with a big hint for last problem in HW_1B)**:
   http://www.math.washington.edu/~aloveles/Math125Winter2017/RiemannSums.pdf

SUPPLEMENTAL REVIEW MATERIAL:

1. **Calculus 1 Review sheet that I wrote**:
   http://www.math.washington.edu/~aloveles/Math125Winter2017/Calc1Review.pdf
2. **Unit circle and basic trig review** (print this off if you don't remember the value of sin(2pi/3) or other trig values:
   http://www.math.washington.edu/~aloveles/Math120Fall2011/Overview%20of%20Trigonometric%20Functions.pdf
3. **Full Precalc Review Sheet**:
   http://www.math.washington.edu/~aloveles/Math124Winter2016/m124PrecalcReview.pdf
4. Here is my most recent Math 124 website if you want more review:
   http://www.math.washington.edu/~aloveles/Math124Winter2016/index.html

OLD EXAMS:

My personal exam archive is here:
   http://www.math.washington.edu/~aloveles/Math125Winter2017/LovelessExamArchive.html
The departmental exam archive is here: http://www.math.washington.edu/~m125/Quizzes/Q4.php
Here are some targeted practice problems from old exams on the current material:

For practice using material from 4.9, 5.1, and 5.2 see:
Problem 3a and 4b from: http://www.math.washington.edu/~aloveles/Math125Winter2017/sp16m125e1.pdf
Problem 2 from: http://www.math.washington.edu/~m125/Quizzes/week4/mid1f.pdf
Problem 2a from: http://www.math.washington.edu/~m125/Quizzes/week4/mid1d.pdf
Problem 4 from: http://www.math.washington.edu/~m125/Quizzes/week4/mid1e.pdf
Problem 4 from: http://www.math.washington.edu/~m125/Quizzes/week4/mid1m.pdf
Problem 2 (you can set up it, but you need 5.3 to finish it) from:
                            http://www.math.washington.edu/~m125/Quizzes/week4/mid1b.pdf
Answers for most of these questions are posted with the exams in the exam archives. While you are in the archive, glance through the other questions on these exams to get a sense of what midterm 1 will look like. I think it is very well worth your time to stop and spend 30 minutes each week doing a self-assessment like this and looking through some old midterms.

IMPORTANT HOMEWORK COMMENTS:

There are NO homework extensions for any reason! You should be activity working on the homework as we discuss the material in lecture. The "closing dates" for the homework are typically 1-3 days later than they need to be just to give you plenty of breathing room, but you should always plan to complete the assignments at least 2 days before they are due to in case of emergency (because remember, you won't be granted an extensions for any reason). Also remember the goal of the homework is to give you practice with the material you can master it. If you miss one homework assignment or if you miss a few problems on a homework assignment, those points won't hurt your grade in any measurable way. BUT if you don't know the material for the exams and perform poorly on the exams, that will hurt your grade a lot. **At the end of the term, I round up your homework grade by 5% so you can miss a little homework and still get 100%** (anyone that gets 95% or above will get 100% for homework, for everyone else I will add 5% to their homework grade at the end of the term).

How to Approach Homework:

1. Don't move on until you completely understand the problem
    (Could you do a similar problem on a test?).
2. Always get it right in one submission. **At most you should be using 2 submissions** (in case you have a typo in your first answer). DON'T use webassign to check your work and don't just guess.
    Practice checking your own answers. If you solved an equation, then you can check your answer by seeing that works in the equation!
    Always check your last step against your first step. If you think you are just mistyping something, don't use 5 submissions typing the same thing in five different ways.
3. If you still don't have the answer after 2 submissions, then bring your question to quiz sections, office hours, the MSC, etc... You should never, ever, ever use more than 3 submissions (you are generously given 5 submissions, which you should never use up).
    Remember you only get one submission on the test!
4. Treat every problem like it is a test. Don't rush through the homework (the goal is not to finish quickly, the goal is to learn the material). At the end of each assignment go back and review the material. Take notes of things that stumped you and come talk to me or a tutor to clarify those issues. Also start making a review sheet of things that might help you if you see the same problem again (remember you get a sheet of notes on the exam, so you should start making now as you do the homework).
5. At least once a week, go take a peek in the exam archive. See which problems you can do and which problems look like problems from the homework. In this way, you will start to see a direct connection between homework and tests.

GETTING HELP: If you need help, here is what you need to do.

1. Start your homework early so that you have time to get help (if you email me the night the homework is due, you won't get a reply). So start the homework at least 5 or 6 days before it is due and always finish it at least two days before the closing date.
2. Quiz section: Your first and best place to ask is in quiz section.
3. Math Study Center (MSC): The Math Study Center is your best place to get some extra help. It is located in Communications B-014 It will be open Mondays-Thursdays from 9:30am to 9:30pm as well as Friday 9:30-1:30 and Sunday 11:00-6:00. Come on by! This is staffed by Math Department grad students and undergraduate tutors that we have hired.
4. Office hours: You can also visit my posted office hours (there are many). See the course website.
5. CLUE: Sundays-Thursdays in the evenings from 7:00-midnight there is drop in tutoring in Mary Gates Hall (Commons). This is staffed by general undergraduate tutors. Check it out.
6. Study groups: You can and should form study groups with classmates. That is a good way to get help. Just remember that you need to keep asking yourself if you could do the problem on your own on an exam!
7. Email: If you have tried all other helping options and are still stumped, you can send me an email (aloveles@uw.edu), but use this as a last resort.

STUDY TIP:

Again, treat the homework as if it were an exam! Use one submission as much as possible (you only get one submission on exam questions) and avoid using the "Watch It" and "Practice another version" (those also aren't available during the exam). After the homework due date passes, you can go back and see the answers and solutions. Make sure to do this. It is a good use of 10 minutes to go back through the homework set and look at the solutions to make sure you really do understand all the concepts. Make some notes to yourself about problems to come back and review again in a week. It's nice to review each assignment right after you finish it and again a week or two later. In the upper right corner of each problem you see where the problem came from in the book, so if you want more practice, then go to the book and try other problems that are nearby the problem you are having difficulty with.

I hope some of this helps. Now you have to put in the time and effort to really get to know these concepts well. If you find something helpful in these newsletters, please share it with your classmates.

Dr. Andy Loveless