

Math 207 Week 1 Newsletter – Dr. Loveless

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 skills on similar old exam problems.** If you find something helpful here, please advertise to your classmates.

UPCOMING SCHEDULE:

Friday: Test Prep 1, Section 2.2 (separable differential equations)
Monday: Section 2.2 (differential equations and applications)
Wednesday: Section 2.1 (integrating factors)
Next Friday: Section 2.3 (applications)

HOMEWORK: Closing Tuesday, HW1 (1.1-1.3)

NEW POSTING: 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 [MATERIALS PAGE](#), where you can find all these materials. All the materials is original review sheets written by me (so you can blame me for typos, ha).

1. [Chapter 1 Overview](#): A short (2 page) review of key ideas in chapter 1.
2. [Complete summary of section 2.2 with full worked out examples](#) (the last page discusses change of variable in some detail, which is a bit of a supplement to the course, but the rest of the review sheet has important essential ideas)
3. **Integration review materials!** You need to know integration well for this course. Especially substitution, integration by parts and partial fractions. Here are some of my review materials on these topics:

[Math 207 Integration Facts Table](#)

[Basic Examples of Key Integration Methods](#)

[Full review of Integration by Parts](#) (at various times this quarter, I will reference this sheet)

[Full review on Partial Fractions](#) (with tips for being fast), you don't need to review this now, but this will be important in the last two weeks of the term.

[Flowchart on how to do any integral](#) (From my Math 125 class)

[Longer review on all integration methods](#) (From my Math 125 class)

General Advice:

Exam 1 will essentially be about four things:

1. Solving 1st order equations... separable (section 2.2) and integrating factor (section 2.1)
2. Setting up some basic applied problems (like you do in chapter 1 and will do in 2.3)
3. Analyzing first order equations: a bit of theory, slope fields, equilibrium and terminology (sections 2.5).
4. Numerical approximation of solutions (Euler's Method, section 2.7)

Before we get into application, theory and analysis, you first need to be comfortable with solving (sections 2.2 and 2.1). Do more than just the homework. Do extra problems from the book. Do the problems mentioned above. Do more problems from other old exams. In this way, you can take care of getting good at solving. Once you can solve, then we spend a lot of energy on setting up applications and analysis (which we will be doing toward the end of next week).

See the next page for old exam practice links!!!

OLD EXAMS:

Most weeks, I will also include in this newsletter several links to old exams just to encourage you to start accessing yourself on how ready you are for the exam. There are many old exams that I have personally compiled (most with solutions) in my personal Math 207 exam archive here:

[Personal Math 207 Exam Archive](#)

Also check out the

[Math 207 Exam 1 Department Archive](#)

And here are a few random particular problems I found by topic (I just clicked through several old finals and put links when I found one for the given topic)....

Practice for chapter 1 (Slope Fields):

[Problem 1\(e\) from 2018 Midterm 1 from Department Archive](#)

and make sure you know the homework!!!

Practice for chapter (Set-Up Applications):

Populations/Savings Accounts:

[Problems 1\(a\) and 5 from 2018 Midterm 1 from Dept. Archive](#)

[Problem 5 from Dr. Loveless 2015 Exam 1](#)

[Problem 5 from Dr. Loveless 2016 Exam 1](#)

Mixing Problems:

[Problem 3\(b\) from Dr. Loveless 2015 Exam 1](#)

[Problem 6 from this old department exam](#)

[Problem 3\(a\) from this old exam from my archive](#)

Velocity:

[Problem 4 from this old exam from my archive](#)

Newton's Law of cooling:

[Problem 5 from this department exam](#)

Practice for 2.2 (Separable Equations):

[Problem 1\(a\) from Dr. Loveless Spring 2015 Exam 1](#)

[Problem 1 from Spicer Winter 2014 Exam 1](#)

[Problem 1 from this department exam](#)

Please glance through old exams each week to check your understanding.

I hope this helps!

Dr. Andy Loveless