

## Math 307 Week 3 Newsletter – Dr. Loveless

### UPCOMING SCHEDULE:

- Friday: **Test Prep 2!** and Section 2.7 (Euler's Method for approximation)  
Monday: Review for midterm (bring old exam and homework questions)  
Wednesday: **Midterm 1** (covers all material we have discussed through 2.7)  
Next Friday: Section 3.1: Second order (linear constant coefficient homogenous with 2 real roots)

### Midterm 1 is Wednesday and covers:

1. **1<sup>st</sup> order solving methods:**  
**Separating:** see 2.2 problems and in many other sections  
**Integrating Factor:** see 2.1 problems and in many other sections  
**(Change of Variable:** see problems from lecture)
2. **Equilibrium Analysis (Stable, Unstable, Semistable) and slope fields:** see 2.5 problems
3. **Applications:** see ch. 1 and 2.3 problems and various applications in homework
4. **Numerical Analysis (Euler's method):** see 2.7 problems

### You are allowed:

- a) An 8.5 by 11 inch sheet of handwritten notes (front and back)
- b) A basic scientific calculator (no graphing calculators and no calculator that can do calculus).
- c) Something to write with.

**HOMEWORK:** HW 4 Closes Monday (it covers 2.5 and 2.7 with a few applications problems as well)

### NEW POSTING:

Here, again, is the course website: <http://www.math.washington.edu/~aloveles/Math307Fall2019/index.html>

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).

1. **Detailed 2.5 (Autonomous Equations) Review and Additional Examples:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307Review2-5.pdf>
2. **Detailed 2.7 (Euler's Approximation Method) Review and Additional Examples:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307Review2-7.pdf>
3. **Brief summary of all our first order solving methods:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307ReviewFirstOrderSolving-f19.pdf>
4. **Full Exam 1 Review:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307Exam1Review.pdf>

Please check out and read these review sheets. I intend them to be part of your reading. You should read the book, come to lecture, then read the posted review and examples. Doing these three things should make the material and concepts much clearer in your head (and it will make the homework and exams much easier).

**See the next page for targeting exam practice.....**

## OLD EXAMS:

Here, again, is my personal Math 307 exam archive (I have updated it, added an exam and added comments about what to skip): <http://www.math.washington.edu/~aloveles/Math307Fall2019/examarchive.html>

Also look at the department exam archive here:

<https://sites.math.washington.edu/~m307/midterm1.php>

And here is some targeted practice on the current material. See previous newsletters for targeted old exam review for previous topics.

*Practice for 2.5 (Autonomous and Equilibrium Analysis):*

Problem 4(b) from: <https://sites.math.washington.edu/~aloveles/Math307Fall2019/sp16m307e1.pdf>

Problem 3a from: <http://www.math.washington.edu/~aloveles/Math307Fall2019/sp15m307e1.pdf>

Problem 4 from: <http://www.math.washington.edu/~aloveles/Math307Fall2019/midterm1f.pdf>

Problem 4: [http://www.math.washington.edu/~aloveles/Math307Fall2019/midterm\\_1\\_wi14\\_spicer.pdf](http://www.math.washington.edu/~aloveles/Math307Fall2019/midterm_1_wi14_spicer.pdf)

Problem 4 from: <http://www.math.washington.edu/~aloveles/Math307Fall2019/midterm1h.pdf>

*Practice for 2.7 (Euler's Method):*

Problem 4a: <https://sites.math.washington.edu/~aloveles/Math307Fall2019/sp16m307e1.pdf>

Problem 4a: <http://www.math.washington.edu/~aloveles/Math307Spring2016/sp15m307e1.pdf>

Problem 4: <http://www.math.washington.edu/~aloveles/Math307Spring2016/midterm1.pdf>

Problem 3b: [http://www.math.washington.edu/~aloveles/Math307Spring2016/midterm\\_1\\_wi14\\_spicer.pdf](http://www.math.washington.edu/~aloveles/Math307Spring2016/midterm_1_wi14_spicer.pdf)

I hope this helps!

Dr. Andy Loveless