

Math 307 Week 4 Newsletter – Dr. Loveless

UPCOMING SCHEDULE:

Friday: Section 3.1: Second order (linear constant coefficient homogenous with 2 real roots)
Monday: Section 3.2: Linearity and the Wronskian (what initial conditions give a unique solution)
Wednesday: Section 3.3: Complex Roots of the characteristic equation
Next Friday: Section 3.4: Repeated roots and reduction of order

HOMEWORK:

HW 3 is posted here: <http://www.math.washington.edu/~aloveles/Math307Spring2016/homework.html>

NEW POSTING:

Here, again, is the course website: <http://www.math.washington.edu/~aloveles/Math307Spring2016/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 3.1 (Two Real Roots Characteristic Equation Problems) Review and Additional Worked Examples:**
<http://www.math.washington.edu/~aloveles/Math307Spring2016/m307Review3-1.pdf>
2. **Detailed 3.2 (Linearity and the Wronskian) Review and Additional Examples:**
<http://www.math.washington.edu/~aloveles/Math307Spring2016/m307Review3-2.pdf>
3. **Skills Review - Everything you need to know for this class (and a bit more) about complex numbers:**
<http://www.math.washington.edu/~aloveles/Math307Spring2016/m307ComplexNumbers.pdf>
4. **Skills Review – Everything you need to know about solving 2-by-2 linear systems (read this carefully):**
<http://www.math.washington.edu/~aloveles/Math307Spring2016/m307Solving2x2Systems.pdf>

Again, 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).

OLD EXAMS:

Here, again, is my personal Math 307 exam archive:
<http://www.math.washington.edu/~aloveles/Math307Spring2016/examarchive.html>

And here is some targeted practice on the current material. See previous newsletters for targeted old exam review for previous topics. We haven't done enough of chapter 3, so I can't find many questions to refer you to in the exam archive. But here is one (I'll have more next week):

Practice for 3.1 (Real Root Characteristic Equation Problems):

Problem 1: <http://www.math.washington.edu/~aloveles/Math307Spring2016/sp15m307e2.pdf>

(You don't yet know what "critically damped" means, so just assume I told you that γ is 12. In other words, solve $4u'' + 12u' + 9u = 0$ with initial conditions $u(0) = 2$ and $u'(0) = 0$. Solutions to that problem are in the archive and that is another example of what we are doing right now.)

I hope this helps!

Dr. Andy Loveless