

## 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 3.1, 3.2: Linearity, the Wronskian, and complex numbers  
Wednesday: Section 3.3: Complex Roots of the characteristic equation  
Next Friday: Section 3.4: Repeated roots and reduction of order

**HOMEWORK:** Closes Friday: HW 5 (Problems 1-3 are about 3.1 – two real roots,  
Problems 4-5 are about complex numbers,  
Problems 6-9 are about 3.3 – complex roots)

### 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 3.1 (Two Real Roots Characteristic Equation Problems) Review and Additional Worked Examples:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307Review3-1.pdf>
2. **Detailed 3.2 (Linearity and the Wronskian) Review and Additional Examples:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307Review3-2.pdf>
3. **Detailed 3.3 (Linearity and the Wronskian) Review and Additional Examples:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307Review3-3.pdf>
4. **Skills Review - Everything you need to know for this class (and a bit more) about Complex Numbers:**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/m307ComplexNumbers.pdf>
5. **Skills Review – Everything you need to know about solving 2-by-2 linear systems (read this carefully):**  
<http://www.math.washington.edu/~aloveles/Math307Fall2019/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/Math307Fall2019/examarchive.html>

And here is the department exam 2 archive:

<https://sites.math.washington.edu/~m307/midterm2.php>

Here is some targeted old exam practice on the upcoming material:

*Practice for 3.1 (Real Root Characteristic Equation Problems):*

Problem 1: <https://sites.math.washington.edu/~m307/midterm2/m2018/midtwo1.pdf>

Problem 4b: <https://sites.math.washington.edu/~aloveles/Math307Fall2019/sp16m307e2.pdf>

Problem 1: <http://www.math.washington.edu/~aloveles/Math307Fall2019/sp15m307e2.pdf> (assume gamma is 12)

*Practice for 3.3 (Complex Root Characteristic Equation Problems):*

Problem 2a: <https://sites.math.washington.edu/~aloveles/Math307Fall2019/sp16m307e2.pdf> (assume gamma is 0)

I hope this helps!

Dr. Andy Loveless