

Math 385, Section M1

Homework 9

Due April 12, 2007, before class

Textbook page 167: Exercises: 9, 11 (graded), 12;

Textbook page 180: Exercises: 13, 19, 24 (graded);

Textbook page 207: Exercises: 24 (graded), 37, 39;

Problem IV: Check that $y_1 \equiv 1$, $y_2 = e^x$, $y_3 = x^2 + 4x$, are linearly independent solutions of the homogeneous variant of the equation:

$$(x + 1)y''' - (x + 2)y'' + y' = (x + 1)^2 e^x,$$

then find all solutions of the above inhomogeneous equation. (graded)

Textbook page 580: Exercises: 17 (graded), 23, 27-30;

Textbook page 586: Exercises: 7, 10 (graded).

Since this is a longish homework I marked the problems that will be graded. Solving only the graded ones might give you a perfect score but will not fully prepare you for the final.