

MA483  
Spring 2001

Instructor: Russell Brown

Homework #3.

Due Wednesday, 7 February 2001

- Strauss section 1.5, #1, 4.
- Strauss section 1.6, #5, 6

In #5, compute  $u_{xx} + 3u_{yy} - 2u_x + 24u_y + 5u$  when  $u$  has the special form  $u = e^{\alpha x + \beta y}$ . Can you choose  $\alpha$  and  $\beta$  to make the terms involving  $v_x$  and  $v_y$  go away? As a second step, make the change of variable  $x' = x$  and  $y' = \gamma y$  so that in the new variable, the equation has the same coefficient in front of  $v_{x'x'}$  and  $v_{y'y'}$ .

- Strauss section 2.1 #3, 8

Announcements: Course handouts can be found at  
<http://www.ms.uky.edu/~rbrown/courses/ma483>

The solutions to assigned homework are on reserve in the math library.  
Below are the e-mails of the students in this course.

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