

Partial Differential Equations - Homework Day 14

Professor:

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Read and Take Notes

1. *Farlow* - Lesson 16 – 17 - Next class we will discuss Chapter 17

Homework

1. *Problems* - Do all problems at the end of Chapter 15.
2. *General PDE problems* - Solve the following PDEs using the method of your choice. First discuss what physical system is being represented and what you expect to happen in the long term solution. Then choose a solution method and state why you picked the method that you picked and why the other methods are less suitable. After solving, does your solution match your expectations?

$$u_t = u_{xx} + 1$$

$$u(0, t) = 0$$

$$u(1, t) = 0$$

$$u(x, 0) = 0$$

$$u_t = u_{xx}$$

$$0 < x < \infty$$

$$u(0, t) = 0$$

$$u(x, 0) = e^{-x}$$