Math 319 - Differential Equations II
Pre-Reading Assignment # 10
due 10am Thu Oct 16th, via email

Reading The lecture notes from Oct 14th (regular class) and Oct 15th (tutorial), as neeed.

Question Some "big picture" questions for you!

1. Consider the problem

$$\nabla^2 u = 0, \qquad 0 < x < a, \quad 0 < y < b \tag{1}$$
$$u_x(0.y) = u_x(a, y) = 0, \qquad 0 < y < b \tag{2}$$
$$u(x, 0) = f(x), \quad u(x, b) = 0, \qquad 0 < x < a \tag{3}$$

   (a) Sketch the region and BCs. What is the physical meaning of the given boundary conditions?

   (b) Without solving the problem, write down the form of the eigenfunctions you expect in the solution. What is your reasoning for your choice?