Math 404 Homework Assignment #2

Due Wed: Feb 15

1. $\frac{\partial u}{\partial x} - \frac{\partial u}{\partial y} + u = 1$ $\quad |x| < \infty, |y| < \infty$

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

2. $x \frac{\partial u}{\partial x} + y \frac{\partial u}{\partial y} = 3$

$u(1,y) = \ln(y)$

3. $x^2 \frac{\partial u}{\partial x} - y^2 \frac{\partial u}{\partial y} = 0$

$u(1,y) = F(y)$ F is any continuously differentiable function

reading assignment: §§ 1.3 – 1.5, 4.1 – 4.2