

Math 331-004 Homework Assignment 1. Due Thursday 1/29/2004 at the start of class.

Problems from Haberman Chapter 1: 1.2.3, 1.2.9, 1.3.1, 1.3.2, 1.4.2, 1.4.6, 1.4.7, 1.5.8, 1.5.9, 1.5.10, 1.5.11

Classify the following equations as Elliptic, Parabolic, or Hyperbolic:

- $u_{xx} - u_{xy} = 0$
- $u_{rr} + u_r/r + u_{\theta\theta}/r^2 = G(r, \theta)$
- $u_{xx} + 2u_{xy} + u_{yy} + u = 2$

(subscripts indicate partial derivatives).