MA4473

Name:

Final, Part 1 (closed book, closed notes) D Term, 2005

- 1. (20 points) Please define/describe/state each of the following:
 - (a) Neumann Problem
 - (b) Poisson Equation
 - (c) Test Function
 - (d) Similarity Solution
- 2. (10 points) Suppose a harmonic function u is defined on a bounded domain Ω . What does the maximum principle guarantee?
- 3. (20 points) Consider the PDE $a(x, y)u_x + b(x, y)u_y = 0$. According to the chain rule, what equations involving a variable s must be satisfied if u is to be constant with respect to s? Explain your answer.

Equations: