

## Assignment 1 (No Need to Hand In)

Exercise 1.1, 2, 3, 4, 11, 12

Exercise 1.2, 1, 2, 3, 5, 6, 7, 8, 11

Additional Problems in Section 1.2: Solve the following first order PDE and state the Domain of Existence.

$$u_x + xyu_y = 0, u(x, 1) = x^2$$
$$(1 + x^2)u_x - xy^2u_y = 0, u(2, y) = e^y$$

Exercise 1.3, 5, 6, 7, 8, 10

Exercise 1.4, 1, 2

Exercise 1.5, 1, 2, 3, 4

Exercise 1.6, 1, 2, 3, 4, 5, 6