

Math 240: Elementary Differential Equations

Extra credit 3: Summer 2010

July 23, 2010

Name.....

Instructor.....

(5 pts) Problem 1. Find all solutions to the following differential equation:

$$\frac{dy}{dx} = 1 - x^2 + 2xy - y^2.$$

(5 pts) Problem 2. Find a second order differential equation whose general solution is

$$y(x) = C_1 e^{3x} + C_2 x e^{3x} + \cos(2x).$$