

MATH 240 SPRING 2014

EXAM 1

Problem 1. (4 pts)

Your name:

Recitation instructor name:

Recitation time:

Problem	1	2	3	4	5	6	7	Total
Grade								

Problem 2. (16 pts) Solve the initial value problem

$$\frac{dy}{dx} + 2y = 3, \quad y(0) = 1.$$

Problem 3. (16 pts) Solve the initial value problem

$$\frac{dy}{dx} = 4x - y, \quad y(1) = 0.$$

Problem 4. (16 pts) Find all solutions of the equation

$$\frac{dy}{dx} = \frac{y - 4x}{x - y}.$$

Problem 5. (16 pts) Find all solutions of the equation

$$\frac{dy}{dx} = \frac{4x - y}{x - y}.$$

Problem 6. (16 pts) Solve the initial value problem

$$\frac{dy}{dx} = \frac{x^3 - 2xy}{x^2 - y^2}, \quad y(1) = 0.$$

Problem 7. (16 pts) Find all solutions of the equation

$$\frac{dy}{dx} - y + 2e^x y^2 = 0.$$