

**Math 216 - Quiz 4**

September 29, 2010

Name \_\_\_\_\_

Score \_\_\_\_\_

Show all work to receive full credit. Supply explanations when necessary.

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1. (2.5 points) Solve the following initial value problem.

$$(y^2 + 3xy) dx = (4x^2 + xy) dy, \quad y(1) = 1$$

2. (2.5 points) Solve the following 2nd order equation.

$$y'' + 2y(y')^3 = 0$$

3. (2.5 points) Solve the following ODE.

$$(2y^2 + 2y + 4x^2) dx + (2xy + x) dy = 0$$

4. (2.5 points) Solve the following ODE.

$$(2xy) dx + (y^2 - 3x^2) dy = 0$$