

## Quiz 4

MATH 2280, ORDINARY DIFFERENTIAL EQUATIONS, SPRING 2024

NAME:

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**Problem 1. Exercise 6.1b** (10 points) Use linear substitution (as described in Section 6.2) to find a general solution to the given differential equation.

$$\frac{dy}{dx} = \frac{(3x - 2y)^2 + 1}{3x - 2y} + \frac{3}{2}$$

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**Solution:**

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**Problem 2. Exercise 6.71** (10 points) For the following determine a substitution that simplifies the differential equation, and using the substitution, find the general solution.

$$\frac{dy}{dx} + 3y = 28e^{2x}y^{-3}$$

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**Solution:**