

# Practice Quiz 4

MATH 2280, ORDINARY DIFFERENTIAL EQUATIONS, SPRING 2024

NAME:

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**Problem 1. Exercise 6.2** (10 points) Using a linear substitution, solve the initial value problem.

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

with  $y(0) = \frac{1}{4}$

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**Solution:**

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**Problem 2. Exercise 6.7c** (10 points) For the following determine a substitution that simplifies the differential equation, and using the substitution, find the general solution.

$$\frac{dy}{dx} + \frac{2}{x} y = 4 \sqrt{y}$$

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**Solution:**