Quiz 7

MATH 2280, ORDINARY DIFFERENTIAL EQUATIONS, FALL 2023

NAME: A#:

Problem 1. Chapter 13 Ex 7.a (10 points) Solve the following initial value problem.

$$y\, y'' = (y')^2$$

with $y(0) = 5$ and $y'(0) = 15$.

Solution:

Problem 2. Section 14.2e (10 points) For the following, first verify that y_1 is a solution to the differential equation and then find the general solution using $y_1(x)$ with the method of reduction of order.

$$4\,x^2\,y'' + y = 0, \quad x > 0, \quad y_1(x) = \sqrt{x}$$

Solution: