

Math 240 - Quiz 3

February 2, 2023

Name _____

Score _____

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

1. (4 points) Solve: $y dy = 4x(y^2 + 1)^{1/2} dx, \quad y(1) = 2$

2. (5 points) Use our method for solving linear equations to solve the initial value problem.

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

3. (1 point) Show that the equation in problem 2 is separable (as well as being linear).