

Retake 3

MAT 265, SPRING 2017

NAME:

1. Consider the differential equation

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

- (a) (2 points) Give the order of this differential equation.
- (b) (2 points) Describe the equation as linear or nonlinear.
- (c) (10 points) Find all solutions of the differential equation.

- (d) (3 points) Find the solution corresponding to the initial condition $y(0) = -1$.

- (e) (3 points) Find the solution corresponding to the initial condition $y(0) = 1$.