

Math 307 Quiz 1

January 24, 2016

Problem 1. Give an example of each of the following

- (a) A nonlinear, separable equation
- (b) A fourth order, linear equation
- (c) An exact equation
- (d) A homogeneous equation

Problem 2. Find a family of solutions of the following differential equation

$$y' = y(1 - y)(1 + y)x.$$

Problem 3. Find a particular solution of the initial value problem

$$y' = y - x, \quad y(0) = 0.$$