

Math 307 Quiz 2

October 6, 2014

Problem 1. Explain why the following first order linear equation is exact. Then determine its general solution

$$te^t y' = -(1+t)e^t y + e^{2t}$$

Problem 2. Determine an integrating factor for the equation

$$y' + \cot(t)y = e^t$$

Problem 3. Find a solution to the following initial value problem

$$y' + \cot(t)y = e^t, \quad y(\pi/2) = 1.$$