Math 307 Quiz 3

October 10, 2014

Problem 1. Use the method of variation of parameters to find the *general* solution to the differential equation

$$y' + y = \sin(t).$$

Problem 2. Find two different solutions to the differential equation

$$y' = y^{1/3},$$

both satisfying the initial condition $y(0) = 0$. (Note: this is an example where a solution to a differential equation exists, but is not unique.)