

QUIZ 5 FOR CALC 4

Name: _____ RUID: _____

(1) (4 pt) Verify that

$$y_1(t) = e^{-t}$$

is a solution of the equation

$$-(t+1)y''(t) - ty'(t) + y(t) = 0, t > 0$$

(2) (3 pt) Find another solution of the above equation.

(3) (1 pt) Write down the general solution. [Hint: The formula that shall be given is

$$y_1(t)v''(t) + (2y_1'(t) + p(t)y_1(t))v'(t) = 0$$

. But you don't really have to use it at least in Problem (2)]