

QUIZ 9 - MATH 310

Friday, November 17

YOUR NAME: _____

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Read each problem **very carefully** before starting to solve it and do only what is asked. Each problem is worth around 5 points. It is necessary to show **all** your work. Correct answers without explanations are worth 0 points. GOOD LUCK!!

1. [6 points] Use Laplace transforms to solve the initial value problem

$$y'' + 3y' + 2y = \delta(t - 5) + u_{10}(t), \quad y(0) = 1, \quad y'(0) = \frac{1}{2}.$$

2. [6 points] Express the solution of

$$y'' + 4y' + 4y = g(t), \quad y(0) = 2, \quad y'(0) = -3,$$

in terms of a convolution integral.