

Name: _____

You have 20 minutes to complete the quiz.

1. (5 points) Solve the differential equation $y'' - y = 0$ subject to the initial conditions $y(0) = 5, y'(0) = -1$.

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2. (a) (2 points) Find the general solution to the homogeneous equation $y'' + 2y' + 2y = 0$. (Your final answer should only involve real-valued functions.)
- (b) (2 points) Use the method of undetermined coefficients to find one solution to the inhomogeneous equation $y'' + 2y' + 2y = \cos t$.
- (c) (1 point) Find the general solution to the inhomogeneous equation $y'' + 2y' + 2y = \cos t$.