

Math 240 - Quiz 5

October 21, 2021

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary. This quiz is due October 26.

1. (5 points) Solve: $y'' - y' - 6y = 4 \cos 3x$, $y(0) = 1$, $y'(0) = -1$

Turn over.

2. (2 points) Consider the following equation:

$$y'' - 12y' + 36y = (3x + 5)e^{6x}.$$

Solve the corresponding homogeneous equation. Then use your undetermined coefficients table to find the appropriate form of the particular solution for the nonhomogeneous equation. Do not solve for the undetermined coefficients.

3. (3 points) Use variation of parameters to solve $y'' + 9y = \csc 3x$.