

MTH 3311 - Test #3

SPRING 2023

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Name _____

Instructions: Show CLEARLY how you arrive at your answers

Do Exercise #1

1. Solve the Differential Equation: $y'' - 6y' + 8y = 52 \sin(3x) - 39 \cos(3x)$

From Exercises 2-3, do one.

2. Solve the Differential Equation: $5y'' - 6y' + 5y = 15x^2 - 61x + 70$

3. Solve the Differential Equation: $y'' - 4y' - 12y = \ln(3x)$

Do Exercise 4.

4. Solve the Differential Equation: $x^2y'' - 4xy' + 6y = 6x^4 - 36x$

Extra (WOW - 10 Points!)

Solve the Differential Equation: $x^2y'' - 4xy' + 6y = \ln(x)$

OR

Do the exercise, from Exercises 2-3, that you haven't already done.