

MATH 238 – Sochacki

FINAL Exam

(2:15) May 3, 2021 1:00 – 3:00 PM

(3:55) May 5, 2021 1:00 – 3:00 PM

Sections 4.1-4.5,5.4-5.5 Linear ODEs, Eigenvalues and Eigenvectors

p. 209 THM 411

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p. 201-202 11,13,23,25

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p. 217 1,3,5,9,11,15

p. 277 1-17 ODD, 21-26

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Convert the following ODEs to a system of ODEs and give the eigenvalues and eigenvectors of the matrix.

1. $y''' - 9y' = 0$. 2. $y''' + 9y' = \sin x$. 3. $y''' - 27y = \tan x$. 4. $y''' + 64y = 4e^{-x}$.

5. $y'' - 2by' + b^2y = 7e^{bx}$.