

Math 3413.001: Physical Mathematics I. Homework

Lecture 1 (Jan 14) - Due date 01/23/2020 : Section 1.1

1. Verify by substitution that $y_1 = e^{2x}$ and $y_2 = e^{-x}$ is a solution of $y'' - y' - 2y = 0$.
2. Verify that $y(x) = x + Cx^{-2}$ is a solution of $xy' + 2y = 3x$. In addition, find the value of C so that we have $y(1) = 5$.