Assignment 2

September 26, 2025

Instructions

These problems are due on Monday, October 6 at 5 pm handed in through Crowdmark. You are allowed to collaborate with your classmates, and you can use the textbook or online notes. Please don't just plug the problems into a program to solve them for you. These problems are designed to be good practice for the midterm, so if you don't actually work on them you are depriving yourself of practice. They are also going to be graded on completion (i.e. you will get full points if you write something basically coherent, even if there are errors.) There should be some evidence of effort (i.e. if you are asked to solve an initial value problem and you just write down a number this will not earn credit), but you are only costing yourself a good opportunity to practice the concepts if you use an AI tool.

1. Find the general solutions for the following equations

   (a) $y' - 5y = e^{2t}$

   Solution: $y = \frac{-e^{2t}}{3} + Ce^{5t}$