

## Worksheet 04/24

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Today we will see how the Laplace transform can be used to solve second order ODEs

### To do List

1. Watch the videos provided and take detailed notes.
2. Attempt the problem below to check your understanding.

**NOTE:** I will not collect the worksheet problems. These problems are meant to check your understanding and generate questions to ask me during office hours if you get stuck.

### Objectives

By the end of this lecture you should be able to

1. Solve a first and second order ODE using the Laplace transform

### Problems

1. Solve the initial value problem

$$y'' + 6y' + 5y = 3e^{-2t}, \quad y(0) = 1, y'(0) = 1$$

### Reading

Section 6.2.