

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

### To do List

1. Watch the videos provided and take detailed notes.
2. Attempt the problems 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. Find the Laplace Transform of a function  $f(t)$  using a table (see page 252 for table).
2. Find the inverse Laplace Transform using a table.
3. Solve a first order ODE using Laplace transform

### Problems

1. Finish up the problem from the lecture, i.e. Use the Laplace transform to solve

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

### Reading

Section 6.2.