

7.5 IVP by Laplace Transform

Method of Laplace transforms:

- a. Take Laplace transform of both sides of the equation.
- b. Use the properties of Laplace transform and the initial conditions to obtain an equation for the Laplace transform of the solution and solve the equation.
- c. Determine the inverse Laplace transform of the solution.

1. $y'' - 4y' + 5y = 4e^{3t}, \quad y(0) = 2, \quad y'(0) = 7$

2. $y'' - 7y' + 10y = 9 \cos t + 7 \sin t, \quad y(0) = 5, \quad y'(0) = -4$