Week 10 summary:

- **Laplace transforms**: \( L(f)(s) = \int_0^\infty f(t) e^{-st} \, dt = F(s) \).

  * Useful for solving ODEs when the forcing term \( f(t) \) is discontinuous.

- \( L \) "turns derivatives into multiplication":
  \[
  L(y') = sY - y(0), \quad L(y'') = s^2Y - sy(0) - y'(0)
  \]

- Inverse Laplace transforms techniques:
  * Factor
  * Partial fractions
  * Complete the square