Examples:
Find the general solution to the ODE $y'' + y = 0$.

Find the general solution to the ODE $y'' - 2y' + 6y = 0$

Solve the IVP $y'' + 4y' + 5y = 0$, $y(0) = 1$, $y'(0) = 4$. Describe the behavior of the solution as $t \to \infty$.