**Example.** Consider the initial-value problem (IVP):

\[ y'' - 2y' + 5y = 0, \quad t > 0, \quad y(0) = 0, \quad y'(0) = 1 \]

(a) Find the general solution of the homogeneous, constant-coefficient ODE in terms of real-valued functions.

(b) Find the solution of the IVP and describe its behavior.
Continued.