

Problem 32

Follow the instructions in Problem 31 to solve the differential equation

$$y'' + 2y' + 5y = \begin{cases} 1, & 0 \leq t \leq \pi/2, \\ 0, & t > \pi/2, \end{cases}$$

with the initial conditions $y(0) = 0$ and $y'(0) = 0$.