Problem 2

In each of Problems 1 through 13:

(a) Find the solution of the given initial value problem.

(b) Draw the graphs of the solution and of the forcing function; explain how they are related.

\[ y'' + 2y' + 2y = h(t); \quad y(0) = 0, \quad y'(0) = 1; \quad h(t) = \begin{cases} 
1, & \pi \leq t < 2\pi \\
0, & 0 \leq t < \pi \quad \text{and} \quad t \geq 2\pi
\end{cases} \]