



## Please Turn Over and Continue Working

2. Use the definition of the Laplace transform to find the Laplace transform of the function

$$f(t) = \begin{cases} 1 & \text{for } 2 \leq x \leq 4 \\ 0 & \text{for all other } x \end{cases}$$

3. Use Laplace transform methods to solve the initial value problem

$$x'' + 6x' + 8x = e^{-t} \text{ with } x(0) = x'(0) = 0$$

**Name:**\_\_\_\_\_.