NAME:

1. (10 points) Find the Laplace transform of the function

$$f(t) = \begin{cases} \cos \pi t & \text{if } 0 \le t < 2, \\ 0 & \text{if } t \ge 2. \end{cases}$$

 $2.\ (10\ \mathrm{points})$  Find the inverse Laplace transform of

$$F(s) = \frac{e^{-s} - e^{-3s}}{s^2}.$$