

DIRECTIONS To receive full credit, you must provide complete legible solutions to the following problems in the space provided. Transfer all your answers to the space provided.

1. Use Euler's method to obtain a four-decimal approximation of the indicated value

$$y' = e^{-y}, y(0) = 0, \quad y(1) = ?$$

- a. Using step size $h = 0.2$

- b. Using a calculator and a step size $h = 0.05$

Ans _____

2. Use a numerical solver and Euler's method to obtain a four-decimal approximation of the indicated value. First use $h = 0.1$ and then use $h = 0.05$.

$$y' = x^2 + y^2, y(0) = 2; y(0.5) \quad \text{Ans} \underline{\hspace{2cm}}$$

