Math 2260 Quiz 22.5 (Practice)

Name _____

Points will be deducted for untidy or disorganized answers

1. Use Taylor series to compute

$$\lim_{x \to 0} \frac{\ln(1+x)}{x}.$$

2. Find a polynomial that will approximate the given function of x throughout the given interval with an error of magnitude less than 10^{-3}.

$$F(x) = \int_0^x t^2 e^{-t^2} \, dt, \quad [0,1]$$

3. Approximate the error in approximating

$$\int_0^1 \frac{\sin x}{x} \, dx \quad \text{by} \quad 1 - \frac{1}{18}.$$