Math 121 Take-Home Quiz #1

Due Sunday, September 11, 2022 in Gradescope by 11:59 pm ET

Instructions:

• This is an Open Notes Quiz. You can use materials, homeworks problems, lecture notes, etc. that you manually worked on.

• This is **NOT** an Open Internet Quiz. You can only access our Main Course Webpage.

• You are not allowed to work on or discuss these problems with other students, professor, Math Fellow TA or simply put anyone.

• You can ask a few small, clarifying, questions in Office Hours, but the problems will not be solved for you.

• The main goal is to make a thoughtful and detailed presentation for the solutions. Submit a clear final draft. No mess please.

• Please submit your final work in Gradescope in the Quiz 1 entry.

1. [10 Points] Compute the following Definite Integral

$$\text{Show that } \int_{e^3}^{e^8} \frac{8}{x\sqrt{1+\ln x}}\, dx = \boxed{16}$$

2. [10 Points] Compute the following Definite Integral

$$\text{Show that } \int_{0}^{\ln 3} \frac{1}{e^x\left(4-e^{-x}\right)}\, dx = \boxed{\ln\left(\frac{11}{9}\right)}$$

DO NOT SPEAK TO ANYONE ELSE ABOUT THIS QUIZ