Math 106   Take-Home Quiz #1

Due Sunday, February 13, 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 value of $\cos\left(\dfrac{4\pi}{3}\right)$ Justify. Show your work using the Unit Circle/Trig Triangles. *Do not just copy down a value.*

2. [10 Points] Compute the value of $\sin\left(\dfrac{11\pi}{6}\right)$ Justify. Show your work using the Unit Circle/Trig Triangles. *Do not just copy down a value.*

3. [10 Points] Consider $f(x) = \tan x \cdot \cos x$. Compute the Derivative $f'(x)$. Do Not simplify.

4. [10 Points] Show that the Tangent Line to the curve $f(x) = 2\cos x$ where $x = \dfrac{\pi}{2}$ is given by the formula $\boxed{y = -2x + \pi}$.

==DO NOT SPEAK TO ANYONE ELSE ABOUT THIS QUIZ==