

Math 108-03
Spring 2026
Dr. Lily Yen

Quiz 4

Show all your work

Name: _____
Number: _____
Signature: _____
Score: ____/10

Problem 1: Given the following implicitly defined function, first determine $\frac{dy}{dx}$; second, find the equation of the tangent line at the point where $x = 2$.

$$x^3 + 19 + 8y = y^3 + 2x^2y$$

Score: /4

Problem 2: You and a friend are riding your bikes to a restaurant that you think is east; your friend thinks the restaurant is north. You both leave from the same point, with you riding at 27 km/h east and your friend riding 31 km/h north. After you have travelled 9 km, at what rate is the distance between you changing? Provide 2 decimal places in your answer. Remember to include units.

Score: /3

Problem 3: Use the method of Linear Approximation to approximate $\sqrt[3]{7.89}$.

Score: /3