

Quiz #8, 10/25  
Math 156 (Calculus I), Fall 2022

Problem 1 is worth 5 points and Problem 2 is worth 5 points, for a total of 10 points. Remember to *show your work* on all problems!

1. Consider the curve in the plane given by  $x^3 + y^3 = x - y$ . Find the slope of the tangent line to this curve at the point  $(x, y) = (0, 0)$ .

2. The area of a circular bacterial colony is growing at a rate of 10 square centimeters per hour. At what rate is the radius growing when the radius is 2 centimeters? **Hint:** recall that the area and radius of a circle are related by the formula  $A = \pi r^2$ .