

Problem 1

Given the following implicit equation equation, find $\frac{dy}{dx}$ and use it to give the equation of the tangent line to the graph at the point $(2, 2)$:

$$y^2 + x^2 = 8.$$

Equation of the tangent line at $(2, 2)$:

Problem 2

Given the following implicit equation equation, find $\frac{dy}{dx}$:

$$xy^2 + \sin(y) = 1$$

Problem 3

Given the following implicit equation equation, find $\frac{dy}{dx}$:

$$y^3 + y^2 + y = \tan(xy) + 3$$