

Worksheet 10
11/7/2022

1. Find the derivative of the function

(a) $y = x \sin\left(\frac{1}{x}\right)$

(b) $y = \sin(\tan 2x)$

(c) $y = \sqrt{x + \sqrt{x}}$

2. Suppose x and y are related to each other by the equation $y \cos x = x^2 + y^2$. Find dy/dx by implicit differentiation.

3. The equation $x^2 - xy + y^2 = 1$ describes a rotated ellipse. Find the tangent line to the ellipse at the point $(1, 0)$.