

Implicit Differentiation (3.10)

When do we use implicit differentiation?

Implicit Differentiation: Differentiate.

1. $\sqrt{x} + \sqrt{y} = 4$

2. $x^2 - 2xy + y^3 = 7$

3. $1 + x = \sin(xy^2)$

4. $\sin x + \cos y = \sin x \cos y$

Finding a Tangent Line: Find an equation of the tangent line to the curve at the given point or value.

5. $x = 3 + \sqrt{x^2 + y^2}$ at $(0, 3)$

6. $x^2 + 3xy + y^2 = 4$ at $x = 2$