

Calculus 3 5 Implicit Differentiation Part I

Lesson 286 | Calculus AB | Implicit differentiation

https://www.youtube.com/watch?v=Ik6o_0xehLU

Original practice aligned to the saved video title.

Name: _____ Date: _____ Show your reasoning.

01

For $x^2 + 13y^2 = 5$, find dy/dx and the slope at any point with $y \neq 0$.

02

For $x^2 + 4y^2 = 6$, find dy/dx and the slope at any point with $y \neq 0$.

03

For $x^2 + 3y^2 = 6$, find dy/dx and the slope at any point with $y \neq 0$.

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04

For $x^2 + 4y^2 = 11$, find dy/dx and the slope at any point with $y \neq 0$.

05

For $x^2 + 13y^2 = 4$, find dy/dx and the slope at any point with $y \neq 0$.

06

For $x^2 + 2y^2 = 3$, find dy/dx and the slope at any point with $y \neq 0$.

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01

For $x^2 + 13y^2 = 5$, find dy/dx and the slope at any point with $y \neq 0$.

Differentiate implicitly: $2x + 26y \cdot y' = 0$. Thus $y' = -x/(13y)$, valid where $y \neq 0$ on the curve.

02

For $x^2 + 4y^2 = 6$, find dy/dx and the slope at any point with $y \neq 0$.

Differentiate implicitly: $2x + 8y \cdot y' = 0$. Thus $y' = -x/(4y)$, valid where $y \neq 0$ on the curve.

03

For $x^2 + 3y^2 = 6$, find dy/dx and the slope at any point with $y \neq 0$.

Differentiate implicitly: $2x + 6y \cdot y' = 0$. Thus $y' = -x/(3y)$, valid where $y \neq 0$ on the curve.

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04

For $x^2 + 4y^2 = 11$, find dy/dx and the slope at any point with $y \neq 0$.

Differentiate implicitly: $2x + 8y \cdot y' = 0$. Thus $y' = -x/(4y)$, valid where $y \neq 0$ on the curve.

05

For $x^2 + 13y^2 = 4$, find dy/dx and the slope at any point with $y \neq 0$.

Differentiate implicitly: $2x + 26y \cdot y' = 0$. Thus $y' = -x/(13y)$, valid where $y \neq 0$ on the curve.

06

For $x^2 + 2y^2 = 3$, find dy/dx and the slope at any point with $y \neq 0$.

Differentiate implicitly: $2x + 4y \cdot y' = 0$. Thus $y' = -x/(2y)$, valid where $y \neq 0$ on the curve.