

Implicit Differentiation

Lecture 22
Section 2.6

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Announcement

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- Test #2 is this Friday, March 3.

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- It will cover Sections 2.1 - 2.5.

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- Be there.

Objectives

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- Use implicit differentiation to find rates of change.
- Find the equation of the tangent line at a point.

Practice

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Use implicit differentiation to find

- (a) The derivative y' .
- (b) The equation of the tangent line at the given point(s).

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1. $x^2y + xy^2 + 2x = 8$ at $(1, 2)$.

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2. $x^2 + x = y^2 + y$ at $(2, -3)$.

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Use implicit differentiation to find

- (a) The derivative y' .
- (b) The equation of the tangent line at the given point(s).

1. $x^2y + xy^2 + 2x = 8$ at $(1, 2)$.

2. $x^2 + x = y^2 + y$ at $(2, -3)$.

3. $\frac{x}{y+1} + \frac{y^2}{x-1} = \frac{xy}{3}$ at $(4, 3)$ or $(4, 2)$ or $(0, 0)$.