

RIDDLE
AP CALCULUS
IMPLICIT DIFFERENTIATION

NAME _____

Find dy/dx . Find the slope at the given point if a point is given.

- $x^2y + xy^2 = 6$
- $y = x^{-\frac{3}{5}}$
- $x + \sin y = xy$
- $x^2 + 4xy + 4y^2 - 3x$
- $x = \cos y$
- $x^2 + y^2 = 13$ $(-2, 3)$
- $(x - 1)^2 + (y - 1)^2 = 13$ $(3, 4)$

Use Implicit Differentiation to find dy/dx and then find d^2y/d^2x .

- $x^{\frac{2}{3}} + y^{\frac{2}{3}} = 1$
- $y^2 + 2y = 2x + 1$

Find the equations of the lines that are tangent and normal (perpendicular) to the curve at the given point.

- $x^2y^2 = 9$ $(-1, 3)$
- $x^2 - \sqrt{3}xy + 2y^2 = 5x$ $(\sqrt{3}, 2)$
- $2xy + \pi \sin y = 2\pi$ $(1, \pi/2)$
- $y = 2 \sin(\pi x - y)$ $(1, 0)$

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