

CALCULUS II

13 MAY 2013

Lesson Description

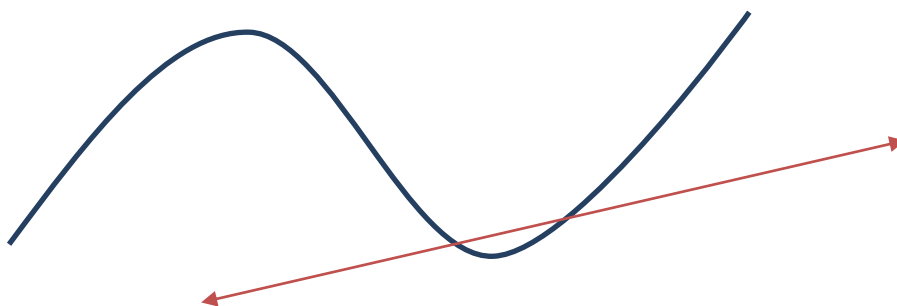
In this lesson we:

- Cover finding the equation of a tangent

Key Concepts

What is a Tangent?

A tangent is a line that touches a curve at a point. Tangents are straight lines defined by $y = mx + c$.



A tangent to a curve will have the same gradient as the curve at the point of contact.

How do you find the gradient of a curve?

Example

Determine the equation of the tangent to $f(x) = x^2 - 2x + 1$ at the point $(-1, 4)$

Questions

Question 1

The line $y = 11x + 44$ is a tangent to the curve $f(x) = -2x^2 - 5x + 12$. Find the point of contact.

Question 2

Determine the equation of the tangent to the graph $y = (2x + 1)^2(x + 2)$ at $x = \frac{3}{4}$

Question 3

Determine the value of p if the line $y = 3x + p$ is a tangent to the graph $y = 2x^3 - 3x - 1$ and $x > 0$