# CALC 400

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August 2025 - December 2025

Repository

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# Week 7: Exam :: 2

**TMV: PS 1**

**Problem 7.1: Find Derivative of the following function**

$$y = cot^{-1}(4log_5(x) + sin^7(3^x))$$

**Solution**

$$\frac{dy}{dx} = -\frac{1}{1 + (4log_5(x) + sin^7(3^x))} * \frac{28(sin(3^x))^6 cos(3^x)3^x ln(3)}{xln(5)}$$

**Problem Set: 2**

**Problem 7.2: Implicit Differentiation**

Find $\frac{dx}{dy}$ of the following equation

$$3x^3 + 8x^2y + 3y^2 = 9$$

**Problem 7.3: Find Tangent Line**

$$y = log(x^2 - 4x + 1)$$

**Step 7.3.1: Step**