| MA 125-06 §3.4-3.7 | Quiz #6 *score* | Name: _____ **17 October 2000** |

INSTRUCTIONS: Calculate the derivatives using algebraic methods. You may check your answers with a calculator.

1. Let $f(x) = \tan^2(x^4)$. Calculate $f'(x)$. What is the slope of the tangent line to f when $x = 0$? *(6 points)*

2. Use implicit differentiation to find a formula for $\frac{dy}{dx}$ if $e^y + x^2 y^2 + 2x^3 = \cos(e^y)$. *(7 points)*

3. Let $f(x) = \ln(\cos^{-1} x)$. Calculate $f'(x)$. *(7 points)*