Math 75B Quiz 1 (green) /20 Name: _____
Fall 2008
§§9-A, 9-B (E) 2.6, 3.3 (S)

Please read directions carefully. Raise your hand if you are not sure what a problem is asking.

You must explain your work thoroughly and unambiguously to receive full credit on questions or parts of questions designated as ***Work and Answer****.*

No calculators or notes are allowed on this quiz.

Multiple Choice. (8 points) *Circle the letter of the best answer.*

1. If y is a function of x, then the derivative of $\sin(x+y)$ with respect to x is

   (a) $\cos(2)y'$
   (b) $\cos(x+y)(1+y')$
   (c) $\cos(1+y')$
   (d) $2\cos(x+y)$

2. If $x\frac{dy}{dx} + y = -y^3\frac{dy}{dx}$, then $\frac{dy}{dx} =$

   (a) $x + y^3$
   (b) $\frac{x}{y^3} - y$
   (c) $\frac{1}{x+y^3}$
   (d) $-\frac{y}{x+y^3}$

Fill-In. (4 points) If $x\frac{dy}{dx} + y = -y^3\frac{dy}{dx}$, find the slope of the tangent line to the graph (of y as an implicit function of x) at the point $(2,-2)$.

slope = _____

Work and Answer. (8 points) *You must show all relevant work to receive full credit. You may use the back if you need more room.*

Find the derivative of the function $f(x) = \ln\left(\frac{\sin x}{(4x-1)^5}\right)$.