

## Math 124 Worksheet #8

October 26, 2007

1. Find the equation of the tangent line to the curve  $x^2 - \sin(xy) + y^3 = 1$  at the point  $(1, 0)$ .
2. Find all of the points of the graph  $3x^2 + 4y^2 + 3xy = 26$  where the tangent line is horizontal. (Hint: After differentiating, plug in  $\frac{dy}{dx} = 0$  to simplify your expression.)
3. Find the 20th derivative of  $\ln x$ . (Note: An alternative notation for the 20th derivative of  $\ln x$  is  $D^{20} \ln x$ .)
4.  $\frac{d}{dx}[\ln(xe^x) + 8] = ?$