

**POW DUE 3/3/10**

For each of the functions below, find its first derivative (1 pt each).  
Simplify your answer (where appropriate) (1 pt each).

Note: Though it may be tempting to think there's a typographical error below, there is NOT.

1.  $f(x) = \tan(\sin x)$

2.  $f(x) = \sec(x^2 + 1)^2$

3.  $f(x) = \frac{2\cos^2 x - 1}{4\sin x \cos x}$

4.  $f(x) = \cot^3 3x$

5.  $f(x) = \tan 2x \csc 2x$