

DEPARTMENT OF MATHEMATICS AND STATISTICS  
UNIVERSITY OF MASSACHUSETTS  
Math 131 Spring 2003  
Derivative Test      Wednesday April 9

Your Name: \_\_\_\_\_

Your Instructor's Name: \_\_\_\_\_

Your Section Number: \_\_\_\_\_

Find the derivative of each of the following functions of the variable  $x$ .  
Do **NOT** simplify your answers.

1.  $5x^6 - 4x^{-2} + 3x^{3/2} - 2$

2.  $\sec(x)$

3.  $\frac{\cos(x)}{x^3 + e^x}$

4.  $(5x^2 + 2x + 3) \cdot e^x$

5.  $e^{\sin(x)}$

6.  $\tan(e^x)$

7.  $(2x^2 - 3x^{-2}) \cdot \sin(x^3 + 1)$

8.  $(4x^2 - 2\sqrt{3x+1})^{-4}$

9.  $\cos^3(x) + e^{x^2} - x^3$

10.  $\sin(\sqrt{x^2 - e^x})$