Math 113 – Homework 6

Due: 15 December 2005 Thursday.

Find the derivatives of the given functions with respect to x and write your answers in the spaces provided. Do not simplify. Leave your answer in a format which is easy to read.

1	$f(x) = x^x$	$f'(x) =$
2	$f(x) = (\ln x)^{\ln x}$	$f'(x) =$
3	$f(x) = x^{\cos x}$	$f'(x) =$
4	$f(x) = \displaystyle\int_{\sec x}^{\tan x} \sqrt{1 + t^3}\ dt$	$f'(x) =$
5	$f(x) = \sec x + \ln \tan x$	$f'(x) =$
6	$f(x) = x \sin \dfrac{1}{x}$	$f'(x) =$
7	$f(x) = \dfrac{x^2 + 1}{x^3 + 1}$	$f'(x) =$
8	$f(x) = (\cos x)(\ln x)$	$f'(x) =$
9	$f(x) = (\cos x)^2 \ln x$	$f'(x) =$
10	$f(x) = (\cos x)^2 (\ln x)^3$	$f'(x) =$