MATH 181 WORKSHEET 5 ½ SPRING 2012

If an answer does not exist write "***DNE'*** and explain why it does not exist.

1. Consider each of the following. Find each of the following and **usefulfy or simplify** the result (reduce numerical results):

A. Find y' where $y = (3x^2 - 1)^2 (4 - 5x)^7$

B. Find $\frac{dy}{dx}$ where $y = \frac{(3x^2 - 1)^2}{(4 - 5x)^7}$

C. Find $\frac{d}{dx}$ where $y = \left(\frac{4 - 5x}{3x^2 - 1} \right)^7$

D. Find y' where $y = \cos^2(x) + \sin^2(x)$

E. Find y' where $y = \tan^2(x) + \sin^2(x)$

G. Find y' where $y = \cos(x) - 3e^x + \sin(x)$

H. Find $\frac{dy}{dx}$ where $y = \frac{6}{x^9}$

2. Consider each of the following. Find each of the following and **DO NOT BOTHER to usefulfy or simplify** the result (but please still reduce numerical results):

A. Find y'' where $y = (3x^2 - 1)^2 (4 - 5x)^7$

B. Find y'' where $y = \sin(x)$

C. Find y'' where $y = \tan^2(x)$

D. Find $\frac{d^2y}{dx^2}$ where $y = \frac{6}{x^9}$ ($\frac{d^2y}{dx^2}$ is a symbol for second derivative)

E. Find y''' where $y = \sin(x)$

F. Find $y^{(4)}$ where $y = \sin(x)$