Quiz 6 for Mathematics 223 Introductory Analysis I - Spring 2000 Material Covered: Sections 5.3,5.4 of Workbook and text For: Wednesday, 12th April

This is a 15 minute quiz, worth 6% and marked out of 6 points. The total possible points awarded for each question is given in square brackets at the beginning of each question. Anything that can fit on one side of an $8\frac{1}{2}$ by 11 inch piece of paper may be used as a reference during this quiz. A calculator may also be used. No other aids are permitted.

Name (please pr	int):		. ID Number:	
(P-1 P-	last	first		
1. [2] Let $f(x) = ($	$2x^2 - e^x)^3.$			
Then $f'(x) = \underline{\hspace{1cm}}$				
2. [2] Let $f(x) = ($	$(3 \ln 3x)^3$.			
Then $f'(x) = \underline{\hspace{1cm}}$				
3. [2] Let $f(x) = ($	$(3x-4)^{3e^x}$. Then $f'(3x-4)^{3e^x}$	x) = (circle one)		
(/			$\left(\frac{3}{3x-4}\right) + \ln(3x-4)$ $\left(\frac{3}{3x-4}\right) - \ln(3x-4)(3e^x)$	
() (3 1)	$(x) (3x-4)^{3e^x} [3e^x]$		(/ _	

1. [2]
$$f'(x) = 3(2x^2 - e^x)(4x - e^x)$$

2. [2]
$$f'(x) = \frac{3^4 (\ln 3x)^2}{x}$$

3. [2] (iii)
$$(3x-4)^{3e^x} \left[3e^x \left(\frac{3}{3x-4} \right) + \ln(3x-4)(3e^x) \right]$$