King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 (151) Sec 07 - Quiz 4

Name: ID: Serial No.:

1. Find $D^{51}\sin(2x)$

2. If $L(x) = (f \circ g \circ h)$, where $h(1) = 2,\ g(2) = 3,\ h'(1) = 4, g'(2) = 5$, and $f'(3) = 6$. Compute $L'(1)$

3. Calculate $f'(x)$ if $f(x) = x\cos^{-1}(2x) - \frac{1}{2}\sqrt{1-4x^2} + e^{x^2}$

4. If $x^2 + xy + y^3 = 1$ find $y^{(3)}(1)$

5. Find the slope of the normal line to the graph of $y = (2x+1)^{\sin 3x}$ at $x = \dfrac{\pi}{6}$

6. Find $y'(0)$ if $y = \dfrac{(x+2)^2(2x-1)^3}{\sqrt{x+1}}$