King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 (142) Sec 10 - Quiz 4

Name: ID: Serial No.:

1. If a linear approximation is used to approximate $\sin(59^o)$, we get $\sin(59^o) \approx a + b$, then $\frac{2}{\sqrt{3}}a + 2b$ is equal to

2. If $y = \sqrt[3]{\frac{x(x+1)(x-2)}{(x^2+1)(2x+3)}}$, then $y'(1)$

3. The slope of the tangent line to the graph of $y = 2^{\log_3(t)} - \log_3(2^t)$ at $x = 3$ is

4. If $y = \cot^{-1}(2x) + \tan^{-1}(\frac{1}{x})$; find $\dfrac{dy}{dx}$

5. Let $f(x) = x^2 + x - 11, \quad x \leq 1$, then $\left.\dfrac{df^{-1}}{dx}\right|_{x=1}$

6. Find y' where $y = (x^2 + 3x)^{\cos y}$