King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101 Section 03 Quiz IV (Term 142)

Name : ..... **ID** #..... Serial #: .....

1. If $f(x) = \ln(x^2 + 4) - x \tan^{-1}\left(\frac{x}{2}\right)$, then find $f'(2)$.

2. If $y = (1 + \sqrt{x})^x$, then find $y'(1)$.

3. A ladder $15\,ft$ long rests against a vertical wall. If the bottom of the ladder slides away from the wall horizontally at a rate of $4\,ft/\sec$. How fast is the ladder sliding down the wall when the top of the ladder is $12\,ft$ from the ground?

4. If $y = 2^x + \log_2 x + \log_2 e + e^{\log_3 2}$, then find y'.