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

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

1. If $y = \cot^3(x^2)$, then find $y'\left(\frac{\sqrt{\pi}}{2}\right)$

2. Find the equation of the tangent line to the curve $y = 2\cos\left(\frac{\pi x}{4}\right)$ at $x = 1$.

3. If $5x^5 - y^5 = 1$, then find y''.

4. Find the equation of the normal line to the curve $y = \dfrac{2}{(x-2)^3}$ at the point $(3, 2)$.

5. Let $h(x) = 2g(x) + f(\sqrt{g(x)})$ and $h'(-1) = 7, f'(3) = 18, g(-1) = 9$, then find $g'(-1)$.