

King Fahd University of Petroleum and Minerals
Department of Mathematics and Statistics
Math 101-26/Term 131 -Quiz 4

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

Circle the correct answer. Messy work will not be graded.

1. If $f(x) = \ln(\tan^{-1} x)$ then $f'(1)$ is

- (a) 1; (b) $\frac{\pi}{4}$; (c) $\frac{2}{\pi}$; (d) $\frac{\pi}{2}$

2. The tangent to the curve of $y = \cot x$, $0 < x < \pi$, is parallel to the line $y = -x$ at the point

- (a) $(\pi, 0)$; (b) $(\frac{\pi}{2}, 0)$; (c) $(\frac{\pi}{2}, 1)$; (d) $(\frac{\pi}{2}, -1)$

3. The tangent lines to the curves $y = \sin 2x$ and $y = -\sin \frac{x}{2}$ at the the origin are

- (a) perpendicular; (b) parallel; (c) on the same line; (d) the same

4. The equation of the normal line to the curve $x^2y^2 = 9$ at the point $(-1, 3)$ is

- (a) $y = -3x + 6$; (b) $y = -\frac{1}{3}x + 6$; (c) $y = -\frac{1}{3}x + \frac{7}{3}$; (d) $y = -\frac{1}{3}x + \frac{8}{3}$

5. If $f(x) = x^3 - 3x^2 - 1$ then $\frac{df^{-1}}{dx}$ at $f(3) = -1$ is

- (a) $\frac{1}{9}$; (b) $\frac{-1}{9}$; (c) $\frac{-1}{3}$; (d) $\frac{1}{3}$