

Department of Mathematics and Statistics KFUPM
MATH 101-08 Quiz#4, Time: 50 mins

Student's Name: _____ ID: _____ Section No: _____

Class Time: _____ Instructor's Name: _____

Q.No.1:- Let $f(x) = \frac{a}{3}x^3 + 3a^2x^2 + 2x + e$. Find the value of constant $a > 0$ if $f'(3) = 11$.

Q.No.2:- Find the normal line equation to the curve $y = \csc^{-1}(e^x)$ when $x = \ln 2$.

Q.No.3:- If $y = \ln(\ln x)$, then find $x(\ln x)y'' + y'$.

Q.No.4:- Find the y-intercept of, the tangent line to the graph of $y = \sin^{-1}\left(\frac{1}{\sqrt{x}}\right)$ at $x = 4$.