MATH 101 Quiz#6, Time: 35 mins

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

Q.No.1:-

The area of a circle is decreasing at a rate of $8\pi/9$ cm^2/sec. At what rate is the radius of the circle changing when the area is $\pi/9$ cm^2?

Q.No.2- If $g(x) = \frac{h(x)}{x}$, $h(2) = 4$, $h'(2) = -3$, then find the slope of the normal line to the curve $g(x)$ at $x = 2$.

Q.No.3:- Find all the values of x for which the graph of the function $f(x) = \frac{\sec x}{1+\tan x}$, $0 \leq x \leq 2\pi$, has a horizontal tangent.