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.