

Math 172 - Quiz 4

September 14, 2016

Name _____

Score _____

Show all work to receive full credit. Supply explanations when necessary.

1. (3 points) Find an equation of the line tangent to the graph of the equation

$$\tan^{-1}(xy) = \sin^{-1}(x + y)$$

at the point $(0, 0)$. (Hint: Use implicit differentiation.)

2. (2 points) Find the slope of the line tangent to the graph of $y = 4x \cos^{-1}(x - 1)$ at the point where $x = 1$.

3. (3 points) Evaluate the indefinite integral: $\int \frac{2x - 5}{x^2 + 2x + 2} dx$

4. (2 points) Evaluate the indefinite integral: $\int \frac{3}{2\sqrt{x}(1+x)} dx$