

MATH 126 SPRING 2011, QUIZ 1

1. Find the derivative of the function. Find the domains of the function and its derivative.

$$f(x) = \ln \cos^{-1} e^{2x}$$

2. Find the limit.

$$\lim_{x \rightarrow \infty} \tan^{-1} \left(\frac{5 + x^2}{2\pi + x^3} \right)$$

3. Simplify the expression, and include the domain in your final answer.

$$\tan \sin^{-1} x$$