

Name: _____

Panther ID: _____

Worksheet week 7

Calculus I

Spring 2016

1. In each case, find dy/dx .

(a) $y = (\ln x) \cdot (\sec x)$

(b) $y = \ln(\sec x)$

(c) $y = \sec(\ln x)$

2. Find the equation of the tangent line to the graph of $f(x) = e^{-3x}$ at $x = 0$.

3. Show that $y = e^{-x^2}$ is a solution of the differential equation $y'' - (y')^2 + 2y = 0$.

4. Use logarithmic differentiation to prove the product and quotient rules.