

Chapter 3 Review & Exam Practice

Calculus I

College of the Atlantic. Fall 2014

1. Find the derivative of the following functions:

(a) $f(x) = \sqrt{x^4 9^x}$

(b) $f(x) = \frac{5-x}{e^x}$

(c) $f(x) = \cos(4 - x)$

2. Let $f(x) = \ln(x)$.

(a) Find the local linearization of $f(x)$ near $x = 1$.

(b) Use the local linearization to estimate $\ln(1.1)$.

3. Find the second derivative of $f(x) = e^{-cx^2}$.