

# A Bit of Chapter 3 Review

## Calculus I

College of the Atlantic. Fall 2016

1. Find the derivative of the following functions:

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

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

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  $f(x) = e^{-cx^2}$ .