

# Chapter 1.4: More Logarithm Exercises

## Calculus I

College of the Atlantic. September 22 and 26, 2022

1. Solve for  $x$ :

$$7 = 10^x . \quad (1)$$

$$10 = 7^x . \quad (2)$$

$$10 = 2(3^x) . \quad (3)$$

2. Solve for  $x$ :

$$5x = 3^x . \quad (4)$$

3. Answer the following questions without using a calculator. You should be able to explain why the answers are what they are.

(a) What is  $\ln(e)$ ?

(b) What is  $\ln(1)$ ?

4. Use your calculator to answer the following questions:

(a) What is  $\ln(2)$ ?

(b) What is  $e^{-2.5}$ ?

5. Suppose that  $f(t) = 100e^{-kt}$  and you know that  $f(5) = 20$ . Solve for  $k$ .

6. Write  $f(t) = 100(2^t)$  in the form  $P_0e^{kt}$ .