

# Chapter 1.4: Logarithm Exercises

## Calculus I

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1. Answer the following questions without using a calculator. You should be able to explain why the answers are what they are.
  - (a) What is  $\log(1000)$ ?
  - (b) What is  $\log 10^4$ ?
  - (c) What is  $\log(1)$ ?
  - (d) What is  $\log(0)$ ?
  - (e) What is  $\log(-10)$ ?
  - (f) What is  $\log(0.1)$ ?
  - (g)  $\log(5000)$  is between what two integers?
2. Use your calculator to answer the following questions:
  - (a) What is  $\log(200)$ ?
  - (b) What is  $\log(0.64)$ ?
  - (c) What is  $\log(-5)$ ?

3. Solve for  $z$ :

$$10^x = 20 . \quad (1)$$

$$20^x = 10 . \quad (2)$$

$$2^{3x} = 20 . \quad (3)$$

$$2^x = 3x . \quad (4)$$