**Module 1 Test Review**

(Functions and Their Inverses 1.1 – 1.5)

**Part I**: *Multiple Choice*

1. If , then

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

2. You have been asked to solve for *x*. What would your first step be? Now solve the equation.

3. Assume and are inverses of one another and drawn on the same graph with the same scale on both the horizontal and vertical axis. What is true of the graph?

4. If , then x= \_\_\_\_\_\_\_\_

5. If , then x= \_\_\_\_\_\_\_\_

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

6. Complete the definition of Logarithm: *For all positive numbers a, where a ≠ 1, and all positive numbers x, means the same as \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.*

7. Name three different ways to write .

8. Find the inverse of ?

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

9. Name three different ways to write ?

|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |

10. a. Draw a graph of



b. Draw a graph of



|  |  |  |  |
| --- | --- | --- | --- |
|  |  |  |  |
|  |  |  |  |

Simplify (on 14 and 15 use definition of log)

|  |  |  |  |
| --- | --- | --- | --- |
| \_\_\_\_\_\_ 11. |  |  |  |
| \_\_\_\_\_\_ 12. |  |  |  |
| \_\_\_\_\_\_ 13. |  |  |  |
| \_\_\_\_\_\_ 14. |  |  |  |
| \_\_\_\_\_\_ 15. |  |  |  |

16. Find if .

17. Simplify . Write your answer in exponential form with positive exponents.

18. Assume that is the inverse function of . What would equal?

**For questions 19 – 20, use the following equations:**

**, , and**

19. Find

20. Find