**Module 1 Quiz Review**

(Functions and Their Inverses 1.1 – 1.3)

**Part I**: Short Answer

*Explain what the FIRST step you’d take to solve for x listed on the right.*

|  |  |  |
| --- | --- | --- |
| \_\_\_\_\_1.  | $$\left(\frac{5x-3}{6}\right)^{2}=7$$ |  |
| \_\_\_\_\_2. | $$\frac{5}{6}x^{2}-3=7$$ |  |
| \_\_\_\_\_3. | $$\frac{(5x-3)^{2}}{6}=7$$ |  |
| \_\_\_\_\_4. | $$5\left(\frac{x-3}{6}\right)^{2}=7$$ |  |
| \_\_\_\_\_5. | $$\frac{5x-3}{6^{2}}=7$$ |  |

**Part II**: *Creating Tables*

*6. Add values into the tables below so that the following statements about your tables are true:*

**Table A is a function.**

 **Table B is a function.**

**Table B is the inverse of Table A.**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| *Table A*

|  |  |
| --- | --- |
| ***x*** | ***y*** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

 | *Table B*

|  |  |
| --- | --- |
| ***x*** | ***y*** |
|  |  |
|  |  |
|  |  |
|  |  |
|  |  |

 |

**Part II**: *Short Answer*

|  |  |  |
| --- | --- | --- |
| $$f\left(x\right)=3x$$ | $$g\left(x\right)=2x^{2}$$ | $$h\left(x\right)=\frac{1}{3}x$$ |

*Find the following:*

7. $f(a+b)$ 8. $g(a+b)$ 9. $h(12a$)

10. $f(g\left(x\right))$ 11. $g(f\left(x\right))$ 12. $f(h\left(x\right))$

13. Which of the two functions listed at the top of this page are inverses of one another?

14. Write the inverse for the function above that does not have the inverse listed on this page.

15. The following equation is written in Exponential Form. Write it in Logarithmic form:

 **Exponential Form**: $3^{4}=81$ **Logarithmic Form**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_

16. The following equation is written in Logarithmic Form. Write it in Exponential form:

 **Logarithmic Form**: $log\_{2}64=6$ **Exponential Form**: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_