Name:	

Date: _____ Period: _____

Investigating Exponential and Logarithmic Functions HOMEWORK

Directions: Please answer the questions in the boxes provided or on a separate sheet of paper. All work must be shown in order to receive full credit. Box or circle your final answers.

graph of $f(x) = (2.5)^x$ and then sketch the graph of $f^{-1}(x)$ on the same plane. $f^{-1}(x)$ on the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. $f^{-1}(x)$ on the same plane. $f^{-1}(x$	graph of $f(x) = (2.5)^x$ and then sketch the graph of $f^{-1}(x)$ on the same plane.	the following questions: What is the domain and range of $f(x)$?
of $f^{-1}(x)$ on the same plane. What is the domain and range of $f(x)$? Does the graph represent exponential growth or exponential decay? What would be the equation of $f^{-1}(x)$? 3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. What is the domain and range of $g(x)$? What would be the equation of $f^{-1}(x)$? 4) For the function, $g(x)$, in question 3, answer the following questions: What is the domain and range of $g(x)$?	of $f^{-1}(x)$ on the same plane.	What is the domain and range of $f(x)$?
What is the domain and range of $f(x)$? What is the domain and range of $f(x)$? Does the graph represent exponential growth or exponential decay? What would be the equation of $f^{-1}(x)$? 3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. 4) For the function, $g(x)$, in question 3, answer the following questions: What is the domain and range of $g(x)$?		What is the domain and range of $f(x)$?
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		
$\begin{array}{c c c c c c c c c c c c c c c c c c c $		
Does the graph represent exponential growth or exponential decay? Does the graph represent exponential growth or exponential decay? What would be the equation of $f^{-1}(x)$? 3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. 4) For the function, $g(x)$, in question 3, answer the following questions: What is the domain and range of $g(x)$?		
$\frac{10 + 8 + 6 + 4 + 2 + 2 + 4 + 6 + 8 + 10}{44 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 + 4 $		Does the graph represent exponential growth or exponential decay?
3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. 10^{-10} 4) For the function, $g(x)$, in question 3, answer the following questions: What is the domain and range of $g(x)$?	-10 - 8 - 6 - 4 - 2 - 2 - 4 - 6 - 8 - 10	
3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane.4) For the function, $g(x)$, in question 3, answer the following questions: What is the domain and range of $g(x)$?What would be the equation of $f^{-1}(x)$?		
3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. What is the domain and range of $g(x)$?		What would be the equation of $f^{-1}(x)$?
3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. What is the domain and range of $g(x)$?		
3) On the coordinate axes below, sketch the graph of $g(x) = \log_3(x - 1)$ and then sketch the graph of $g^{-1}(x)$ on the same plane. What is the domain and range of $g(x)$?		
graph of $g^{-1}(x)$ on the same plane. What is the domain and range of $g(x)$?	3) On the coordinate axes below, sketch the graph of $a(x) = \log_2(x - 1)$ and then sketch the	4) For the function, $g(x)$, in question 3, answer the following questions:
What is the domain and range of $g(x)$?	graph of $g^{-1}(x)$ on the same plane.	
	110 + y	What is the domain and range of $g(x)$?
What is the equation of the vertical asymptote?		What is the equation of the vertical asymptote?
	2 2	
What would be the equation of $g^{-1}(x)$?		What would be the equation of $g^{-1}(x)$?
Evaluate the following logarithms. If necessary, round to 3 significant figures.		
5) $\log_3 \frac{1}{27}$ 6) $\log_2 1$ 7) $\log_7 49$ 8) $\log_5 248$	5) $\log_3 \frac{1}{27}$ 6) $\log_2 1$	7) log ₇ 49 8) log ₅ 248
Describe the relationship (transformation) between the pair of functions in each problem below.	Describe the relationship (transformation) between	the pair of functions in each problem below.
9) $f(x) = 3^x$ 10) $f(x) = 2^x$	$9) f(x) = 3^x$	10) $f(x) = 2^x$
$g(x) = 3^x + 4$ $g(x) = 2^{x-3}$	$g(x) = 3^x + 4$	$g(x) = 2^{x-3}$
11) $f(x) = 4^x$ 12) $f(x) = \left(\frac{1}{x}\right)^x$	11) $f(x) = 4^x$	12) $f(x) = \left(\frac{1}{2}\right)^x$
$g(x) = 4^{-x}$	$g(x) = 4^{-x}$	$(-1)^{x}$
$g(x) = -\left(\frac{-}{2}\right)$		$g(x) = -\left(\frac{-}{2}\right)$