Butterworth Math 120 Paper HW 13 , due 4/30

Reminders: Please **show all your work** neatly on this worksheet.
This should be some of your most careful work!

Name: _____

	Show your work neatly (when relevant). Place your answer in the box at the right	
1.	Solve: $\sqrt{4 - x} = 7$	
2.	Solve: $7x = \sqrt{49x^2 + 2x - 10}$	
3.	Solve: $\sqrt{6x + 7} - 1 = x + 1$	
4.	Solve: $2x = 10 + \sqrt{12x + 12}$	
5.	Solve: $2\sqrt{x + 7} = x - 1$	
6.	Solve: $\sqrt{3x + 3} = \sqrt{5x - 1}$	

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7. Solve: $\sqrt{2x + 1} + \sqrt{x + 4} = 3$

8. Solve: $\sqrt[3]{5x^2 - 6x + 2} = \sqrt[3]{x}$

9. Complete the table of values for the function that follows as a translation (represented by x′ or y′) of the function $f(x) = 4^x$

$g(x) = (1/4)^x$

x′	x	$y = f(x) = 4^x$
	-1	$1/4$
	0	1
	1	4

10. Complete the table of values for the function that follows as a translation (represented by x′ or y′) of the function $f(x) = 4^x$.

$h(x) = 2(4)^x$

x	$y = f(x) = 4^x$	$y' = h(x) = 2(4)^x$
-1	$1/4$	
0	1	
1	4	

11. Complete the table of values for the function that follows as a translation (represented by x′ or y′) of the function $f(x) = 4^x$.

$j(x) = -4^x$

x	$y = f(x) = 4^x$	$y' = j(x) = -4^x$
-1	$1/4$	
0	1	
1	4	

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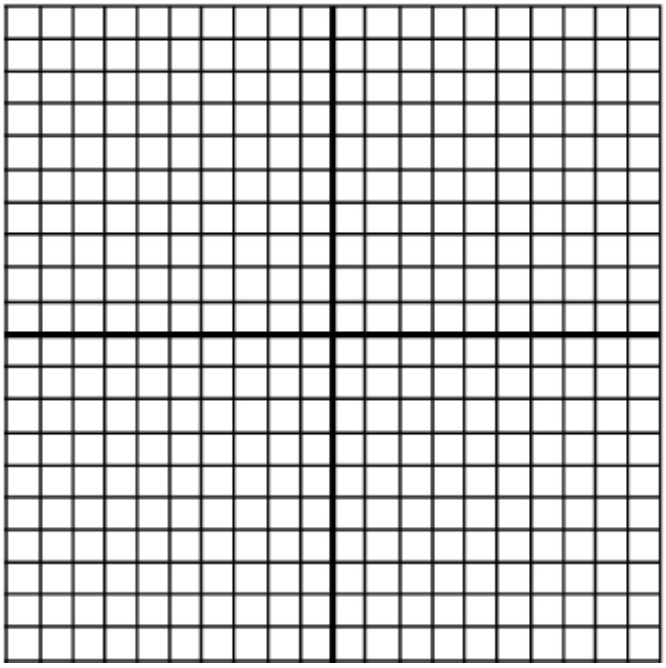
12. Use your table of values in problems 9 & 10 & 11 to graph $f(x) = 4^x$, $g(x) = (^1/_4)^x$, $h(x) = 2(4)^x$ and $j(x) = -4^x$ on the coordinate system. Label each of the functions with f(x), g(x), h(x) and j(x) respectively. Put each point on the graph but you don't need to label with an ordered pair this time.



13.	Solve the exponential function. Do give positive and negative values if needed and check solutions. $b^2 = 189$	
14.	Solve the exponential function. Do give positive and negative values if needed and check solutions. $2b^3 = 128$	
15.	Solve the exponential function. Do give positive and negative values if needed and check solutions. $5 + b^2 = 174$	
16.	Solve the exponential function. Do give positive and negative values if needed and check solutions. $\frac{b^8}{b^4} = 164$	

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17.	Find an exponential model for the following points. (0, 2) & (3, 7)	
18.	Find an exponential model for the following points. (4, 15) & (6, 25)	
19.	Find the inverse algebraically: $f(x) = 2x + 5$	
20.	Give the x value of f(x) if $f^{-1}(4) = 9$	
21.	For the inverse function given, find f(4) x | $f^{-1}(x)$ 2 | 3 3 | 4 4 | 5 5 | 6	
22.	Is a quadratic function as 1:1 function? Why or why not?	