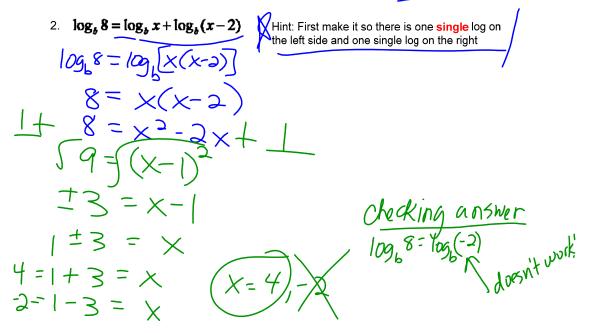
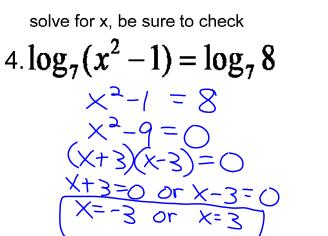
	7.5 continued more t	things to do with logs!	
solve for x:			
$\log_3(x^2 + 7x - 5) = \log_3(6x + 1)$			
well, if there is one SINGLE log on the right side and one SINGLE log on the left side of the equation, and the logs are the SAME base, then the polynomials in the () must be equal. so:			
$\log_3(x^2 + 7x - 5) = \log_3(6x + 1)$			
$x^2 + 7x - 5 = 6x + 1$			
	$x^2 + x - 5 = 1$		
	$x^2 + x - 6 = 0$		
	(x+3)(x-2) = 0		
	x = -3 or x = 2		
		kIII Since we can only take the Log of positive numbers Zero and not Negatives) we must check our answer.	
L	Check! (Always check in the original problem	Teacher Note: Scroll down for check	
	x= -3	x=2	
	$\log_3(9-21-5) = \log_3(-18+1)$	$\log_3(4 + 14 - 5) = \log_3(12 + 1)$	
	$\log_3(-17) = \log_3(-17)$	$\log_3(13) = \log_3(13)^{\textcircled{1}}$	
	can't take the log of a negative so x=-3 is an extraneous solutionit is no good	The only good solution is x=2	

solve for x, be sure to check

one to one



3. $2\log_3 x = \log_3 4$ Hint: use the power-exponent rule $\log_3 x^3 = \log_3 4$ $x^2 = 4$ $x = \pm 2$ Checking in ORIGINAL $2\log_3(-2) \neq \log_3 4$ $\log_3(-2) \neq \log_3 4$ $\log_3(-2) \neq \log_3 4$



 $\frac{Checkning}{|Dg_{7}((-3)^{2}-1)| = |Og_{7}8|} |Dg_{7}8 = |Og_{7}8| |Dg_{7}8 = |Og_{7}8| |Dg_{7}8| |Dg_{7}8 = |Og_{7}8| |Dg_{7}8 = |Og_{7}8| |Dg_{7}8| |Dg$

5.
$$2\log_2(x+2) = \log_2(3x+16)$$

 $\log_3(x+2) = \log_2(3x+16)$
 $(x+2) = 3x+16$
 $x^2+4x+4 = 3x+16$
 $-3x-16 - 3x - 16$
 $x^2+x-12 = 0$
 $(x+4)(x-3) = 0$
 $(x+4)(x-3) = 0$
 $x+4 = 0 \text{ or } x - 3 = 0$
 $x = -4$
 $2\log_2(-2) = \log_2 4$
 $\log_2(-2) = \log_2 4$
 $\log_2(-2) = \log_2 4$

6. $\log(3x+2) = \log(x-8) + 1$

$$\begin{aligned} \log(3x+2) - \log(x-8) &= 1\\ \log(\frac{3x+2}{x-8}) &= 1\\ 109(\frac{3x+2}{x-8}) &= 1\\ 109(\frac$$