Name _____

HW 5-7

1. Solve $4^x = 64$.

2. Solve $\log_3 x < 5$

3. Solve $e^x = 18$. Round to the nearest thousandth.

4. Solve $-7 + 2\log_3 x \geq -5$

5. Solve $\log(x^2 + 5) = \log 21$

6. Complete the statements.

   a. If $5^{7x-2} = 125$, then $7x - 2 =$ _____.

   b. If $\log_2(x^2 - 5) = \log_2 4x$, then $4x =$ _____.

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7. Solve for x . $\log_4 x + \log_4(x-6) = 2$

8. Explain why $3^{x^2+4} = \frac{1}{3}$ has no solution.

9. Let $f(x) = \log_4(3x+7)$. Write an equation for f^{-1} .

10. Let $f(x) = \log_8 x, g(x) = 16^x$ and $h(x) = f(g(x))$. Consider the equation $h(x) = w$ for some constant w . Find the solution of $h(x) = w$ in terms of w .