WS #4-5
Properties of Logarithms

1. Properties of Logarithms:

1.	4.	7.
2.	5.	8.
3.	6.	

2. Write as a sum and/or difference of logarithms:

A. $\log_a\left(x\sqrt{x^2+1}\right),\ x>0$

B. $\ln\dfrac{x^2}{(x-1)^3},\ x>0$

C. $\log_a\dfrac{\sqrt{x^2+1}}{x^3(x+1)^4},\ x>0$

3. Write as a single logarithm:

A. $\log_a 7+4\log_a 3$

B. $\dfrac{2}{3}\ln 8-\ln\left(3^4-8\right)$

C. $\log_a x+\log_a 9+\log_a\left(x^2+1\right)-\log_a 5$

4. Approximate $\log_2 7$ to four decimal places.

5. Change of Base Theorem

A. Show the change of Base theorem for $\log_a M$

B. $\log_5 89$

C. $\log_{\sqrt{2}}\sqrt{5}$

6. Graph $y=\log_2 x$