Name_____

Date_____

Advanced Algebra

Unit 3: Exponential, Log and Power Functions

Inverse of Exponential…Log Functions

Assignment #11

Re-Write the equations in exponential form

1) $\log_3 27 = 3$	2) $\log_4 256 = 4$	3) $\log_6 36 = 2$	4) $\log_6 216 = 3$
5) $\log_2 32 = 5$	6) $\log_8 64 = 2$	7) $\log_5 125 = 3$	8) $\log_1 1 = 3$

Re-Write each equation in logarithmic form

9) $3^5 = 243$	10) $10^{.12} = 1.318$	11) $4^{-1} = \frac{1}{4}$	12) $16^{-1/2} = \frac{1}{4}$
13) $4^3 = 64$	14) $13^2 = 169$	15) $9^{2/3} = 4.327$	16) $6^4 = 1296$

Evaluate each. (You should be able to do these without the calculator)

17) $\log_5 25$	18) $\log_9 9^{-.56}$	19) $\log_{12} 1$	20) $\log_9 81$	21) $\log_4 4^{5/6}$
22) $\log_4 2$	23) $\log_{½} ½$	24) $\log_5(-25)$	25) $\log_2 1/8$	

Solve the following equations for x. You might want to re-write them into exponential form if you are unsure of what it is asking**. Remember the relationship. Log $_{base}$ answer exponent so you should be able to flip that to base ^{exponent}= answer**

1) $\log_3 81 = x$

2) $\log_2 256 = x$

3) $\log_6 x = -1$

4) $\log_x 343 = 3$

5) $\log_x 343 = 3$

6) $\log_3 x = 5$

7) $\log_4 x = 2$

8) $\log_x 64 = 3$

9) $\log_x 243 = 5$

10) $\log_x 256 = 8$

11) $\log_5 x = 1$

12) $\log_2(x+1) = 1$

13) $\log_5 (x-4) = 0$