H. Math 3 Remediation Sheet for Unit 3   Name _____

1) Write in exponential form $\ln x = p$	2) Write in log form $m^c = p$
3) Expand: $\log x^4 y^3$	4) Condense: $5log_2 x - 4log_2 m$
5) Simplify: $(5e^{-4x})^{-2}$	6) Solve: $e^{2x} - 5 = 19$
7) Solve: $14 - \ln(x - 3) = 8$	8) Solve: $25^{x+4} = 125^{3x-2}$
9) Solve: $log_5(x + 3) + log_5(x + 2) = log_5 6$	10) Suppose you deposit \$4500 in an account that pays 3.5% interest compounded quarterly. How long will it take to reach \$7000?

11) Suppose you invest $700 in the bank and it is compounded continuously at 4.25%. How long will it take to double?	12) A cup of coffee contains 140 mg of caffeine. If caffeine is eliminated from the body at a rate of 12% per hour, how long will it take for half of this caffeine to be eliminated?
13) Suppose you invest $850 in a bank at 3.25% interest compounded monthly. How much money will you have in 8 years?	14) Evaluate : $log_2 8 - log_2 4$
15) Harry purchased a car for $26,700. The value of the car decreases by 13% every year. What will be the value of the car in 10 years?	16) Write a function that translates $y = 3^x$ five units to the left and 4 units up
17) Solve: $x^2 - 6x - 3 = 0$	18) Solve: $2|x - 4| - 3 > 9$
19) Find $f \circ g\,(x)$ if $f(x) = x^2 - 7$ & $g(x) = 3x - 2$	20) Find $f^{-1}(x)$ if $f(x) = 7x - 2$