Name: _____ Date: 12/11/14
PreCalculus Ms. Wilson

Unit 3 – Exponential, Logistic, and Logarithmic Functions
HW Packet #2 – Due 12/18/14

For questions 1-4, solve the equation for x by changing it to exponential form.

1.) log x = 2

2.) log x = 4

3.) log x = -1

4.) log x = -3

For questions 5-6, sketch a graph of the function, and analyze it for domain, range, continuity, increasing or decreasing behavior, boundedness, extrema, symmetry, asymptotes, and end behavior.

5.) $f(x) = \log(x - 2)$

6.) $f(x) = 3\log(x) - 1$

For questions 7-12, assuming x, y, and z are positive, use properties of logarithms to write the expression as a single logarithm.

7.) $\log x + \log y$

8.) $\frac{1}{5}(\log z + \log y)$

9.) $2\log x - 3\log y$

10.) $\ln 3 - \ln y$

11.) $4\log(xy) - 3\log(yz)$

12.) $3\ln(x^3y) + 2\ln(yz^2)$

For questions 13-14, sketch a graph of the function, and analyze it for domain, range, continuity, increasing or decreasing behavior, asymptotes, and end behavior.

13.) $f(x) = \log(x^2)$

14.) $f(x) = \ln(3x)$