CCP **Fall 2011**
Math 162 **Dr. Yun Yoo**

Attendance Quiz 7

Name: _____ Date : _____

1. (a) Graph the functions $f(x) = e^x$ and $g(x) = \ln x$ on the same axes. Find the inverse of $f(x) = e^{x+3}$.

(b) Find the domain/ range of $f(x) = e^x + 2$ and find the domain/ range of $g(x) = \ln(x-2)$.

(c) Graph of $y = -\ln x$, $y = \ln(-x)$, $y = \ln(x-3)$, $y = \ln(x+2)$, $y = -\ln(-x)$, $y = \ln(x) - 3$ and $y = \ln(x) + 2$

2. Evaluate each expression.

(a) $\log_3 \sqrt{27}$ (b) $\log_2 80 - \log_2 10$

(c) $\log_8 4$ (d) $\log_6 4 + \log_6 9$

(e) $\log_8 1$ (f) $\ln e^6$

(g) $\log 10$ (h) $e^{\ln 4}$

(i) $\log_3(\frac{1}{9})$ (j) $\ln \sqrt[4]{e^3}$

(k) $\log_4 64$ (l) $\log(\log 10)$

3. Expand the logarithmic expression:

(a) $\log(\frac{4x^3}{y^2(x-1)^5})$ (b) $\ln\sqrt{\frac{x^2-1}{x^2+1}}$

4. Combine into a single logarithm:

(a) $\frac{3}{2}\log_2(x-y) - 2\log_2(x^2+y^2)$ (b) $2\ln x - 3\ln y - 4\ln z$

5. Solve for x.

(a) $2^{x-1} = 10$ (b) $5\ln(3-x) = 4$

(c) $4^{x-1} = 64$ (d) $\log_2(x+2) + \log_2(x-1) = 2$

(e) $e^{2x} - 6e^x + 5 = 0$ (f) $e^{3x-1} = 5$

(g) $\frac{50}{1+e^{-x}} = 4$ (h) $4 + 3^{5x} = 8$