Math 32, Spring 2010, Section 101
Worksheet 7

Work through the following problems in groups of about four. Take turns writing; everyone should get a chance to write for some of the problems. It's more important to understand the problems than to do all of them.

1. True or false? Correct any false statements.

   (a) $\ln(x+y) = \ln(x) + \ln(y)$

   (b) $\ln(\sqrt{e}) = \frac{1}{2}$

   (c) The range of $\ln x$ is all real numbers.

   (d) If $a = b^c$, then $\log_c(b) = a$.

2. Find the domain of each of the following functions.

   (a) $y = (\ln x)^2$

   (b) $y = \ln(2 - x - x^2)$

   (c) $y = \log_3(e^x - 1)$

   (d) $y = \log_{10} \frac{2x+3}{x-5}$

3. Solve the equation $\log_6 x + \log_6(x+1) = 0$.

4. Solve the inequality $\ln x + \ln(x+2) \leq \ln 35$.

5. Graph the function $y = -\ln(x+2)$, and specify any asymptotes. What is the inverse of this function?