Part I (due at the beginning of class Friday, December 5)

We talked about several properties of natural logs in class. Here are some more properties and an example to try to apply the properties:

Theorem 1 (More Logarithmic Properties)**.** *If a and b are positive numbers and n is rational, then*

- $\ln 1 = 0$
- $\ln(ab) = \ln a + \ln b$
- $\ln(a^n) = n \ln a$
- $\ln\left(\frac{a}{b}\right) = \ln a - \ln b$

Example 1. Expand the expressions:

(a) $\ln \frac{10}{9}$

(b) $\ln \sqrt{3x+2}$

(c) $\ln \frac{6x}{5}$

(d) $\ln \frac{(x+3)^4}{2\sqrt[5]{x^3-2}}$

Part II: WeBWorK (due Saturday, December 6, by 11 PM)

Click here for your WeBWorK assignment. Complete the DW 35 WeBWorK assignment.

Part III: Homework Problems (due FRIDAY, December 5 at the beginning of class)

1. Evaluate the integral.
   (a) $\int_1^3 (x+2)^3 \, dx$
   (b) $\int_0^4 x^2\sqrt{x^3+9} \, dx$
   (c) $\int_0^{\frac{\pi}{2}} \cos(3x) \, dx$

Friday's mini-Celebration of Learning

Friday's mini-Celebration of Learning will include problems on learning targets I5, I6, and I8.