Part I: (due at the beginning of class Wednesday, February 21)

Complete page 1 (just the front) of the pink Improper Integrals handout.

Remember that what you turn in for Part I should have 3 parts, as mentioned in the syllabus:

(a) Your responses to the reading/watching questions below.

(b) Your own questions/comments on the reading.

(c) The amount of time you spent on Part I (including the time spent reading/watching).

Part II: Exercises (prepare for class Wednesday, February 21)

Finish the indeterminate forms handout.

Part III: Homework Problems (due Wednesday, February 21 at the beginning of class)

Review the guidelines and Sample Homework in the syllabus to make sure your Part III solutions follow them.

1. Consider $\int_0^1 e^{x^2}\, dx$. How large must n be so that the Simpson's Rule approximation is within 0.00001 of the actual value of the integral?

2. Suppose $f(x)$ is a polynomial of degree 3 or lower (so $f(x) = Ax^3 + Bx^2 + Cx + D$ for some constants A, B, C, and D). Show that Simpson's Rule gives the exact value of $\int_a^b f(x)\, dx$.