Problem Set 2   **Calculus 2**   **Due 2/19/07**

You are encouraged to work in groups of two to four on this assignment and make a single group submission. Each problem is worth 5 points. For full credit indicate clearly how you reached your answer. All work must be legible and submitted on clean paper without ragged edges.

1. Find a general formula for the area of the ellipse $\dfrac{x^2}{a^2} + \dfrac{y^2}{b^2} = 1$.

2. Find the area between the line $y = x$, the right half of the hyperbola $x^2 - y^2 = 1$, the line $y = 0$, and the line $y = b$ for some positive constant b.

3. Derive line 75 from the table of integrals at the back of the book.

4. Derive line 53 from the table of integrals at the back of the book.