**Practice Problems 11 - Math 141, Frank Thorne (thornef@mailbox.sc.edu)**

1. What is the *definite integral* of a function $f(x)$, from $x = a$ to $x = b$? (Please give the algebraic definition, using an equation.)

   Draw a picture and explain why your equation gives the signed area under the graph of $f(x)$ between $x = a$ and $x = b$.

2. What does the Fundamental Theorem of Calculus say? (Both parts) Why is it important?

   (So far, we only talked about the second part. We will talk about the first part after Thanksgiving.)

3. Evaluate $\int_0^4 \sqrt{4 - (x-2)^2}$ using geometry.

4. Evaluate $\int_{-4}^4 \frac{x}{2} dx$ using geometry.

5. Evaluate $\int_{-2}^5 (x+3) dx$ using geometry.

6. Thomas, 5.4, 1-35, 57-64.

7. Thomas, 5.5, 1-66, 73-80.