Part I: Read and Respond (prepare for class Friday, May 2)

Carefully read Section 7.5, taking notes for yourself.

Answer the following questions to turn in as part of your Part I assignment. Review the syllabus for parts (a)–(c) that should be included in this assignment. After you've read and understood the proof of the Fundamental Theorem, take a minute to realize that you just understood (at least mostly; we can talk about questions—and amazingness—in class) a world-changing theorem. I am prone to exaggeration, but calculus changed the world, and the heart of calculus is the Fundamental Theorem. Then do a dance to celebrate. ☺

Reading Questions

1. In the proof of Part I, we use the MVT. Explain why the hypotheses of the MVT are met in this part.
2. In the last sentence of the FTC proof, how do we know that $|x - c| \geq |t - c|$?

Part II: Exercises (prepare for class for Friday, May 2)

1. Try this one again: show that $f(x) = x$ is integrable on $[1, 4]$. Hint: consider dividing the interval into n pieces of equal width and then think about how you need to choose n in relation to the ϵ that you of course let be greater than zero at the beginning.

Part III: Problems

Nothing new; feel free to turn in up to 5 revisions in the last week of classes if you'd like!