Math 2D − Suggested Homework 8

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Reading: Sections 14.8 (word problems), 15.1, 15.2. For section 15.1, you do **NOT** need to know the full definition of the integral with double sums, so ignore the first 3 pages of 15.1. As long as you know how to do problem 1 in 15.1, you're all set with Riemann sums. You also don't need to know the statement of Fubini's theorem and the part about slices on page 994, but know how to use it. Ignore formula 11 unless you find it useful, and ignore Example 9. Section 15.2 has tons of useless formulas as well, so as long as you know how to do the examples, you'll be fine! You do not need to know the definition of type 1 and type 2 regions, and hopefully the properties of double integrals should be straightforward enough that you don't have to memorize them.

Note: I will go a bit out of order in sections 15.1 and 15.2. On Friday I'll define the integral simply as the volume under a function and I'll do Fubini's theorem (15.1). On Monday, I'll do more practice with calculating integrals (15.1) as well as integrals over general regions (15.2). Finally, on Wednesday, I'll do the Midpoint rule (15.1), Average value (15.1), and Properties of integrals (15.2).

- **Section 14.8:** (if you haven't already done so) 29, 38, 40

- **Section 15.1:** 1, 9, 12, 15, 19, 21, 27, 29, 38, 47

- **Section 15.2:** 3, 9, 18, 21, 24, 26, 39, 52, 56, 57, 59, 62, 66