

I'm switching the reading and exercises order on the assignment today because I want you to do the exercises before you do the reading. ☺

Part II: Exercises (prepare for class Monday, September 7)

Example 3 on the Volumes of Solids handout. (We'll work more on Example 2 in class together.)

Part I (due at the beginning of class Monday, September 7)

Fill in the blanks/blank spaces as you read through page 3 of the Volumes of Solids handout (the section headed "In General"). This serves as your reading questions for this assignment.

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

- (a) Your responses to the reading 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).

Part III: Homework Problems (due Wednesday, September 9 at the beginning of class)

1. (a) The graphs of $y = x^4 - 2x^2 + 1$ and $y = 1 - x^2$ intersect at three points. However, the area between the curves *can* be found by a single integral. Explain why and write an integral for this area.
- (b) The area of the region bounded by the graphs of $y = x^3$ and $y = x$ *cannot* be found by the single integral $\int_{-1}^1 (x^3 - x) dx$. Explain why, and then try using symmetry to write a single integral that does give the area.