

Reading Assignment for Sections 7.1 & 7.2

MATH 131: Calculus II, Sections 2 and 3
Fall Semester 2015

Follow the general guidelines for the Reading Assignment (the salmon colored handout).

Be sure to include and label all four standard parts 1,2,3,4 of the Reading Assignment in what you hand in. Be sure to **staple** together pages if you have more than one, and include your **name** at the top of at least the first page. Neatness is expected!!!

Due: by the beginning of class on Friday, October 16th

Read:

Section 7.1 (pages 511-514): Basic Approaches AND Section 7.2 (pages 516-520): Integration by Parts! Do the Quick Checks along the way! Check your answers to them at the end of the Exercises for Sections 7.1 and 7.2!

Notes:

Now we plunge into Chapter 7 to learn a new set of integration techniques to add to our tool box! First, in Section 7.1, think about ways we can use old tools (like completing the square and long division!) to help us rewrite integrands into something we know how to deal with. Then in Section 7.2 learn a new technique that is especially helpful in expanding the kinds of functions for which we can calculate volumes and find other values for different kinds of applications. Remember that each method is undoing something we did with differentiation. There is not a one-to-one correspondence between differentiation and integration techniques, but you should look for connections between the processes.

Remember that your answers should include complete sentences for every question. Be sure to address all parts of each question.

Reading Questions for part (1):

a) (i) What differentiation rule does integration by parts work to undo? (ii) For what types of integrands is integration by parts useful? Explain your answers.

b) Give an example calculation which shows that $\int f(x)g(x)dx = \int f(x)dx \cdot \int g(x)dx$ is NOT true in general. Then give an example calculation showing what we can sometimes do instead to calculate $\int f(x)g(x)dx$ using the method of this section.

Remember parts 2-4 on the salmon handout! **Reread the directions for these parts to be sure that you are answering the questions.** If you have lost your salmon handout, there is a link on our website to the Homework Guidelines.