

# Reading Assignment # 12

Math 13 - Prof. Orellana

January 31, 2006

Read Sections 5.4 - Review integration by parts.

Don't forget to let me know the pages where you found the answers. You should write full sentences when you do these assignments to help you study from them before the next exam.

1. Define what we mean by a "closed box". Give a numerical example and the notation that is used.
2. What is a partition of a closed box and how many "sub-boxes" do we do a partition of order 4?
3. Define the Riemann sum of  $f$  on a closed box  $B$ .
4. Define the triple integral. What is the key thing to remember? Summarize the ideas on the paragraph right after the definition.
5. What does Theorem 4.4 say? How is Figure 5.50 related to this theorem?
6. State the three dimensional version of Fubini's Theorem.
7. What types of elementary regions can occur in three dimensions? Draw examples.
8. Define  $f^{\text{ext}}$  and explain why is this useful in defining triple integrals over any elementary region.
9. What does Theorem 4.8 say?