Reading Assignment # 11

Math 13 - Prof. Orellana

April 28, 2010

Read Sections 5.2 and 5.3 - Review integration by parts.
Don't forget to let me know the pages where you found the answers.

1. What does it mean to say that "the set of discontinuities has zero area"? Give an example. State the theorem that uses this terminology.
2. What does Fubini's Theorem says and what does it "demonstrate"?
3. What are the properties of the double integral?
4. Describe the elementary regions for double integrals.
5. What is f^{ext} and how is it called?
6. State Theorem 2.10, what does this theorem provides us with?
7. How is f^{ext} used in the proof of Theorem 2.10?
8. If we want to find the area of a region D in the xy-plane, what double integral should you compute?
9. What are the two steps outlined in Example 2 in Section 5.3 when you change order of integration.
10. Sketch the region of integration for $\int_0^{\pi/2} \int_1^{cos(x)} sin(x)\, dydx$.