

# Reading Assignment # 6

Math 9 - Prof. Orellana

Oct. 8, 2007

Read Section 8.8 and answer the following questions.

1. Describe in detail the objective of Section 8.8.
2. Give a definition of improper integral of type 1.
3. Give an example of an improper integral of type 1.
4. Define what it meant when one says that  $\int_a^\infty f(x)dx$  is convergent. What do we mean if we say it is divergent?
5. Give an example of a convergent integral and a divergent integral of type 1.
6. Read the paragraph after the red box in page 545 and give a summary of what it says. Is Figure 3 related to this discussion?
7. Give a definition of an improper integral of type 2.
8. Is there any relationship between type 1 and type 2 improper integrals? What functions are we trying to integrate?
9. How is the warning after Example 7, related to this problem? How could you avoid making this mistake?
10. State the comparison Theorem. How is this theorem useful?