Reading Assignment # 11

Math 9 - Prof. Orellana

Oct. 22, 2007

Read Section 12.8 and 12.9 and then answer the following questions.

1. What is the objective of Section 12.8?
2. What is a power series about a? Give an example of a power series.
3. What test for convergence seems to be useful in finding the values of x for which power series converge?
4. What is the Bessel function? Name an application associated with this function.
5. What is the domain of convergence for the Bessel function?
6. What does Theorem 3 says?
7. Define radius of convergence and interval of convergence.
8. Give examples of power series that illustrate each of the cases of Theorem 3.
9. What are the steps to find the interval of convergence when the ratio test applies?

The following questions concern Section 12.9

1. What is the objective of Section 12.9?
2. Why would a scientist and computer scientist would be interested in understanding Section 12.9?
3. What technique is being illustrated by Examples 1, 2, and 3?
4. What does Theorem 2 in Section 12. 9 says?
5. For what types of series do we know that the derivative of the sum is the sum of the derivatives and the integral of the sum is the sum of the integrals?

6. What is Note 2 saying?
7. What does Note 3 say?
8. What is the common thread for Example 5, 6 and 7?
9. What is part (b) of example 8 illustrating?