Outline and review problems for Midterm IV

MATH 175, Fall 2014

The test will be closed-notes, closed book, without using calculators
Briggs & Cochran: 10.2, 10.3, 10.4, 11.1, 11.2, 11.3

1. Find the Taylor Series about a given center for a function using the definition. Write your answer in standard Sigma (Σ) notation.

   10.3 # 9, 11, 13, 17, 19, 21

2. Use a basic Maclaurin Series to determine Maclaurin Series for similar functions. Write your answer in standard Sigma (Σ) notation.

   10.3 # 23, 25, 27, 53

3. Use a basic Maclaurin Series to approximate real numbers. 10.3 # 61, 63
   10.4 # 39, 41, 43

4. Use a basic Maclaurin Series to find limits.

   10.4 # 7, 9, 13, 17

5. Use a basic Maclaurin Series to find derivatives of functions.

   10.4 #21, 23, 25

6. Use a basic Maclaurin Series to find integrals of functions. Find the indefinite integral, written in standard Sigma (Σ) notation. Then write out the first 3 terms of the definite integral.

   10.4 # 31, 33, 35

7. Identify a function by its power series

   10.4 # 49, 51, 53, 55, 57

8. Change a parametric form of a curve into its corresponding Cartesian form and sketch or describe the curve.

   11.1 # 7, 9, 11, 13, 15, 17, 63, 65, 67, 69

9. Find the equation of tangent lines for curves described parametrically.

   11.1 # 27, 29, 45, 47, 49, 71, 73

10. Plot points in polar form and find some of its equivalent coordinates.

    11.2 # 1, 9, 11, 13

11. Change a given point from polar form to Cartesian form and vice versa

    11.2 # 15, 17, 19, 21, 23, 25

12. Sketch curves that are given in polar coordinates by first sketching in the Cartesian plane.

    11.2 # 27, 29, 31, 33, 35, 37, 39, 41, 43, 45, 47, 77, 79, 81, 83, 85, 87, 89

13. Find the equation of tangent lines for curves described in polar form.

    11.3 # 5, 7, 9, 11, 13

14. Find the points where a curve has horizontal and/or vertical tangents.

    11.3 # 15, 17, 19

15. Sketch curves given in polar form and find the area of a given region.

    11.3 # 21, 23, 25, 27, 35