MTH 132-950 Final Exam Information

The 100-point final exam will consist of two portions: a 40-point take-home portion and a 60-point in-class portion. The take-home portion will be posted Friday, May 7, and it will be due Wednesday, May 12, by 11:30 am. The in-class portion of the final will occur during class on Wednesday, May 12.

Your final exam will consist of twenty 5-point problems---one problem from each of the section objectives listed below. Each answer will have the form of a single number, a single mathematical expression, or a short phrase. The answer itself will be worth **up to** 2 points. The supporting work or explanation will be worth **up to** 3 points. The supporting work will be scored as follows:

- 0 points - No work or no correct work/explanation
- 1 point - Some correct ideas and work/explanation
- 2 points - The ideas and work/explanation are mostly correct
- 3 points - The ideas, notation, and work/explanation are correct

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Final exam section objectives

1. Find the area of a bounded region between the graphs of two functions. (Section 2.1)
2. Use disks or washers to find the volume of a solid of revolution. (Section 2.2)
3. Use cylindrical shells to find the volume of a solid of revolution. (Section 2.3)
4. Derive and apply the formulas for derivatives and integrals of the hyperbolic functions. (Section 2.9)
5. Use integration by parts to evaluate indefinite and definite integrals. (Section 3.1)
6. Evaluate integrals involving powers of sines and cosines. (Section 3.2)
7. Use trigonometric substitutions to evaluate indefinite and definite integrals. (Section 3.3)
8. Integrate rational functions by using partial fractions. (Section 3.4)
9. Use the trapezoid rule to approximate definite integrals. (Section 3.6)
10. Explain the meaning of an infinite series, its partial sums, and its convergence or divergence. (Section 5.2)
11. Determine whether a geometric series converges or diverges. If possible, find its sum. (Section 5.2)
12. Recognize telescoping series, and determine convergence or divergence. (Section 5.2)
13. Use limit comparison to determine whether a series converges or diverges. (Section 5.4)
14. Determine when a series is absolutely or conditionally convergent. (Section 5.5)
15. Estimate the sum of an alternating series. (Section 5.5)
16. Determine the radius and interval of convergence of a power series. (Section 6.1)
17. Find the Taylor series for a function. (Section 6.3)
18. Eliminate the parameter from a set of parametric equations. (Section 7.1)
19. Find the area between a parametric curve and the horizontal axis. (Section 7.2)
20. Convert points and equations between rectangular and polar coordinates. (Section 7.3)