MTH 132-002 Final Exam Information

The 100-point final exam will be posted Tuesday, May 12, by 10 am. It will be due in Blackboard by **Saturday, May 16, at 8 am**.

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

---

Final exam skill list

1. Use disks or washers to find the volume of a solid of revolution. (Section 2.2)
2. Use cylindrical shells to find the volume of a solid of revolution. (Section 2.3)
3. Compute the work done by a variable force acting along a horizontal or vertical line. (Section 2.5)
4. Compute the mass and center of mass of a two-dimensional (planar) object. (Section 2.6)
5. Use integration by parts to evaluate indefinite and definite integrals. (Section 3.1)
6. Use trigonometric substitutions to evaluate indefinite and definite integrals. (Section 3.3)
7. Compute the partial fraction decomposition of a rational expression. (Section 3.4)
8. Use the trapezoid rule to approximate definite integrals. (Section 3.6)
9. Explain the meaning of an infinite series, its partial sums, and its convergence or divergence. (Section 5.2)
10. Apply the integral test to determine convergence or divergence of a series. (Section 5.3)
11. Use limit comparison to determine whether a series converges or diverges. (Section 5.4)
12. Determine when a series is absolutely or conditionally convergent. (Section 5.5)
13. Determine the radius and interval of convergence of a power series. (Section 6.1)
14. Use power series to represent functions. (Section 6.1)
15. Find the Taylor polynomial for a function. (Section 6.3)
16. Find the Taylor series for a function. (Section 6.3)
17. Eliminate the parameter from a set of parametric equations. (Section 7.1)
18. Find the area between a parametric curve and the horizontal axis. (Section 7.2)
19. Convert points and equations between rectangular and polar coordinates. (Section 7.3)
20. Find the arc length of a polar curve. (Section 7.4)