

MA 181 Test #4 Outline (Scott)

Test #4 will be given on Friday, December 3<sup>rd</sup> and cover sections 4.7 – 4.8 and 5.1 – 5.2. Students should review quizzes, homework, and classwork.

Students should be able to:

1. Use Newton's Method to find the second approximation to the root of an equation. (4.7.)
2. Use Newton's Method to approximate the root(s) of an equation. (4.7)
3. Given a graph, use Newton's Method to approximate the root of an equation  $f(x) = 0$  by drawing tangent lines to find  $x_n$ .
4. Find the most general antiderivative of a function. (4.8)
5. Find the antiderivative that satisfies the given condition(s). (4.8)
6. Find  $f$  given  $f''$ . (4.8)
7. Find the position function using antiderivatives. (4.8)
8. Approximate the area under a given graph using left endpoints, right endpoints, and midpoints as sample points. (5.1)
9. Find lower and upper estimates for the area under a given graph. (5.1)
10. Estimate the total distance given a velocity graph. (5.1)
11. Evaluate the Riemann sum for a given function. (5.2)
12. Use geometry to evaluate a definite integral given a graph. (5.2)
13. Evaluate integrals by interpreting a graph in terms of area. (5.2)
14. Compare definite integrals given a graph. (5.2)
15. Express a limit as a definite integral. (5.2)