

Math 113 Final Exam: Friday, November 17, 2:30-4:30 PM in Bailey 104

Derivatives

Know how to state and use the definition of the derivative.

Know the derivative rules.

Know how to write an equation of the tangent line to $y = f(x)$ at a point.

Know how to do implicit differentiation.

Know how to do related rates and applied max/min problems.

Know how to find Maclaurin and Taylor polynomials.

Know how to use L'Hôpital's Rule.

Know how to sketch curves using intercepts, asymptotes, extrema, and concavity.

Integrals

Know the integral rules.

Know how to compute $\int_a^b f(x)dx$ using the formal definition (as a limit of a sum).

Know how to compute $\int_a^b f(x)dx$ using fundamental Theorem of Calculus.

Know u -sub, integration by parts, trig integrals, trig substitution, and partial fractions.

Know how to use a definite integral to compute the area between curves.

Know how to use a definite integral to compute the volume of a solid of revolution.

Know how to use a definite integral to compute the work.

Know how to evaluate the improper integrals.

Some Suggestions

Study homework and sample problems from your notes.

Study old quizzes and tests.

Do the practice exams (to be distributed in class Monday).

Good luck on Friday!