

## Topics for the Final Exam

- Definite and indefinite integrals.
- Integration by substitution.
- Integration by parts.
- Integrating trigonometric functions.
- Integration by trigonometric substitution.
- Integration by partial fraction decomposition.
- Improper integrals.
- Volume.
- Separable differential equations.
- Series (including the sum of a geometric series and *all* of our series convergence tests, as well as absolute and conditional convergence).
- Convergence of power series.
- Operations on power series.
- Taylor and Maclaurin series.
- Parametric equations, including tangents to parametric curves.
- Polar coordinates, including tangents to polar curves.

Note: You will be expected to know the relevant trigonometric identities and basic values of trigonometric functions (e.g.  $\sin(\pi/6)$ ,  $\tan(\pi/4)$ , etc.).