MATH 19 – Final Exam Details

The final exam will take place on **Monday May 6 from 4:30pm-7:15pm in our usual classroom (Lafayette L411)**. The final is cumulative but will weight more to topics covered at the end of the semester. It will be approximately the same length as a midterm exam (perhaps slightly longer, but I do not anticipate it taking more than 1.5x your usual exam time). You are allowed a scientific or graphing calculator. **Please note that academic integrity violations will be taken seriously, and will be met with serious consequences.**

Topics to study

- **Chapter 5 ($\approx 40\%$)** – Basic integration rules, particular antiderivatives (solve for C), method of substitution, the definite integral (know what it represents and its properties), The Fundamental Theorem of Calculus (use it to compute definite integrals).
- **Chapter 2 ($\approx 15\%$)** – Limits: know properties of limits and how to evaluate them. One-sided vs two-sided limits. Infinite limits and limits at infinity (and relation to asymptotes). Derivative: know the two interpretations (instantaneous rate of change & slope of tangent line). Basic derivative properties.
- **Chapter 3 ($\approx 30\%$)**– Derivative of e^x and $\ln x$. Product, quotient, and chain rules. Implicit differentiation. Find equation of tangent line. Find where tangent line is horizontal.
- **Chapter 4 ($\approx 15\%$)** – Use sign charts to find: where $f(x)$ is increasing/decreasing, local extrema, where $f(x)$ is concave up/concave down, points of inflection. Use L'Hopital's rule to evaluate indeterminate limits.

The exam will be very similar to the practice exam.

Study resources:

- **Final Exam Practice Exam**
- Past assessments and solutions
- Your class notes
- I will announce extra office hours for Monday