

Math 102
Final Exam – 90 minutes
20% of Course Grade
Fall 2009

Calculus

1. Finding tangent line equations using power, product & quotient rules
2. Rectilinear Motion
3. Maxima, minima, and curve sketching given $f(x)$ or $f'(x)$
4. Exponential growth/decay – Compound interest or Newton's Law of Cooling
5. Properties of e^x , pp. 155-8

Gödel's Proof

1. Explain terms, paradoxes & contributions of key people – e.g. consistency, axiom, deductive method, completeness, Hilbert, Gödel, Riemann, Gauss, Lobachevsky, Bolyai, Russell & Whitehead, Richard & Russell
2. Classic Greek Problems & Non-Euclidean Geometries
3. Small Axiomatic System – e.g. p. 15
4. Gödel's Numbering Scheme and the heart of his proof