Final exam topics
Exam topics. Approximate number of questions in ()’s.

(0) Pre-review
Lines: Slopes & point-slope form
Powers: Reciprocal & negative powers. Roots and fractional powers.
exp & log: Graphs, values at 1, 0.

(1-2) Limits
From a graph, from an equation
Left & right
At infinity
Continuous functions

(2-3) Def of derivative
Slope of tan line as limit of secant lines
Equation of tangent line
When does derivative exist?
“Marginal” cost revenue profit

(2) Differentiation rules
(4.5 on elasticity of demand not covered)

(5) Derivatives and geometry:
Increasing & decreasing --- f’ > 0, f’< 0
Critical points --- f’=0 or f’ doesn’t exist
Relative max/mins. Absolute max/mins
Concave up & down --- f” > 0, f” < 0
2nd derivative test
Optimization problems
Given f, sketch f’, f”

(1) Partial derivatives

(8) Integration
Definite integral as area under curve
As limit of rectangles - L & R Riemann sums, error in difference
Fundamental Theorem of Calculus (part II)
Antiderivatives - the indefinite integral
Rules for integrating cf, f+g, x^n, 1/x, e^x

Suggested review problems for integration:
Ch 6 review exercises #1-34 (except #21), 47, 48