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