Topic Priority (due to a study of past final exams)

DISCLAIMER: This is NOT a promise of what will appear on the final exam. This is only a summary of what I saw on past final exams. Our final exam may be different.

If you don't know where to study first my recommendation is to

1. review integration techniques (not knowing integration techniques will make the final hard),
2. have a good understanding of the supporting material which I list at the end,
3. Work on the common topic list and less common topic list and
4. don't forget there might be graph questions (on average each final has one). I list the possible graph questions at the end.

The following analysis (of the past 4 final exams) takes into account the main topic of each problem and the additional material required to solve the problem.

The most popular material: Integration techniques.

Common topics which appears on nearly all past finals: (Some exams emphasize different topics in different amounts, but each topic is fairly probable and worth on average 10% of the final exam)

- Applications of the Definite Integral to Mass and other density problems
- Volume of revolution
- Improper Integrals
- Continuous probability distributions
- Differential equations
- Sequences
- Series
- Taylor Series

Less common topics: (This material still often appears on final exams, but is typically worth few points)

- Arc length
- Sigma notation and other summation problems
- Riemann Sums
- Fundamental theorem of calculus part I and other integration properties
- Applications of the Definite Integral to Velocities and other Rates

Supporting Material: Many problems require material from a different section. Below I list topics which are often used to solve problems in other sections.

- Sigma Notation is used in
  - Riemann sums,
  - series and
  - Taylor series.
- Improper integrals are used in
  - applications to rates,
  - applications to density,
  - probability problems,
  - series and
  - volumes of revolution.
- Integration techniques are used in
  - applications to rates,
  - applications to density,
  - Probability problems,
  - improper integrals,
  - volumes of revolution,
  - differential equations and
  - series.
- Fundamental theorem of calculus part I has uses in
  - probability problems,
  - arc length,
  - L'Hopitals rule and
  - series.
- Integral properties are used in every topic with an integrals.

Topics with graph problems: This is a list where you have to interpret a graph and answer questions. This list doesn't include other problems where graphing is a nice tool like volumes of revolution and area between curves.

- Probability problems
- Applications to rates
- Sequences