Guide to Midterm Exam 2

Review all your homework problems and quizzes. Then check the following topics and ask yourself if you understand them. If not sure, you can find related examples from your class note and/or homework problems and practice them.

1. Review extreme points, critical points, points of inflection, asymptotes, dominant terms, etc. Study how to graph a function with the above information.
2. Review procedures for finding absolute max/min of a function.
3. Review Mean Value Theorem and its applications.
4. Understand definition of Riemann sum and its relation with integration. Study how to express an integral in terms of limit of Riemann sums, and vice versa.
5. Review Fundamental Theorem of Calculus in both forms, their proof and applications.
6. Review basic integrations (using chain rule). Do as many examples as time permits.
7. Review the definitions of big O and small o and the examples in the textbook and lecture notes.
8. Review L'Hôpital rule, proof, variants and applications. Go over all the examples in the examples and homeworks.
9. Study on how to derive formula of the derivatives of inverse functions. Memorize derivatives/integrations related to basic inverse functions such as logarithmic and inverse trigonometric functions.