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 asymptotes, dominant terms and elements for graphing rational functions.
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.
5. Review Fundamental Theorem of Calculus in both forms and their 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/lecture notes.
8. Find and memorize examples regarding continuous/differentiable functions that are contrary to your instinct.
9. Review L'Hôpital rule, proof, variants and applications.
10. 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.
11. Understand meanings of hyperbolic functions. Memorize derivative/integration of hyperbolic functions. Skip inverse hyperbolic functions.