Topics that the student must prepare for their second midterm

For your second midterm you should be able to

1. apply implicit differentiation for the first-order and second-order derivatives whenever you see a function that is defined implicitly (section 3.8),
2. differentiate functions that involve trigonometric expressions (section 3.9) ,
3. differentiate functions that involve logarithmic and exponential expressions (section 3.11),
4. differentiate using the technique of logarithmic differentiation , whenever necessary , even if the term "logarithmic differentiation" has not been mentioned explicitly in a question (section 3.12),
5. find intervals on which a function is increasing and decreasing (section 4.2),
6. find points of relative maxima and relative minima (section 4.3),
7. find intervals on which a function is concave upward and concave downward (section 4.4),
8. find inflection points (section 4.4).

9. find absolute maxima and minima of a given function (section 4.7). Section 4.7 consists of two parts ; we only examine you on the first part of it. Exercises 1 to 6 of section 4.7 (page 287) are kind of questions from this section you may have in your midterm 2 test.

10. Note 1. You will be given a formula sheet consisting of the derivative formulas of sections 3.9 and 3.11 .

11. Note 2. You should know the chain rule as it is one of the main building blocks of this course.

12. Note 3. You will not be asked on how to derive the formulas in the textbook.