

# Reading Assignment for Section 4.4

MATH 130: Calculus I, Section 4  
Spring Semester 2017

**Follow the general guidelines for the Reading Assignment (the salmon colored handout).** Be sure to include and label all four standard parts 1,2,3,4 of the Reading Assignment in what you hand in. Be sure to **staple** together pages if you have more than one, and include your **name** at the top of the page. Neatness is appreciated!!!

**Due:** at the beginning of class on Friday, April 21st

Read:

Section 4.4: Optimization Problems, pages 270-274

Notes: In this section we apply all our maximizing and minimizing skills to real world problems! Go back and review how we found absolute extrema in Sections 4.1 and 4.2. Remember those maximizing profit and minimizing material (for canning fruit) questions we asked at the beginning of the semester? Let's answer them now!

**Remember that your answers should include complete sentences for every question. Be sure to answer all parts of each question!**

Reading Questions for part (1), Response:

- a) Summarize in your own words what the important things are to show when solving an optimization problem; in other words, what are the main steps. This does NOT mean copy the table on page 272! Some of the things in the table will likely be in your summary, but others not, and the table may be missing things! Think about what you need to show a complete solution. You may want to refer back to our outline for Related Rates and compare – what is similar? What is different?
- b) Back in Section 4.1, we outlined a procedure for finding absolute extrema on a closed interval (it is noted on the top of page 241). However, not every example in Section 4.4 uses that method to solve the problem. Which ones do not? Why don't they use that procedure and what mathematical method do they use instead? Note that you do not need to understand the whole example to answer this question!

Remember parts 2-4 on the salmon handout!

**Optional, but highly recommended: Make flashcards for material in Section 4.4. Sample problems, outline of steps, diagrams, etc. could be valuable on flashcards.**