

Reading Assignment for Section 4.7

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 14th

Read:

Section 4.7: L'Hôpital's Rule, pages 297-307

Notes: In this section we return to investigate limits a bit more using our new found knowledge of derivatives. Back in chapter 2, we dealt with limits that were of the form $\frac{0}{0}$. When we came across these, we said we had to "do more work" and used tricks like factoring and canceling, multiplying out and canceling, and rationalizing. Those tricks don't always help us, however. Luckily, some mathematicians back in the 1600s and 1700s came up with another alternative which is known as l'Hôpital's Rule.

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) List each of the different types of indeterminate forms for limits that are discussed in this section, and say briefly what approach the book says we can take for each of them. A table might work well for organizing this information!
- b) What does the book say about blindly using l'Hôpital's Rule whenever we see the limit of a quotient? That is, are we always allowed to apply l'Hôpital's Rule if we are taking the limit of a quotient?

Remember parts 2-4 on the salmon handout!

Optional, but highly recommended: Make flashcards for material in Section 4.7. Sample problems, theorems, diagrams, etc. could be valuable on flashcards.