Reading Assignment for Section 2.3

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, February 3rd

Read:

    Section 2.3: Techniques for Computing Limits, pages 69-76

Notes:

In this section we work on some shortcuts to evaluate limits. These shortcuts are legal because they have been proven using methods similar to what you read about in Section 2.7. It makes our lives much easier than having to complete an ϵ-δ proof every time we need to evaluate a limit!

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) For what kinds of functions $f(x)$ may we evaluate the limit by just plugging a into the function, that is, for what functions is $\lim_{x \to a} f(x) = f(a)$? Explain carefully. Check out the theorems! Why can we do this?

    b) There are two tricks that are shown in this section for dealing with limits of functions for which we cannot just plug in a or repeatedly apply limit laws. What are they? In exercises 60 and 61 on page 74, two other tricks are needed. (By tricks, we really mean ways to validly manipulate functions.) Without actually doing the problems, can you describe what tricks you would use?

    c) Briefly describe the Squeeze Theorem. You may include the statement of the theorem from the text, but **also** describe briefly what it means in **your own words**. Include a diagram.

Remember parts 2-4 on the salmon handout!