

# Main Exercises Week 14

MATH 131: Calculus II, Sections 2 and 3

Your Name (Print): \_\_\_\_\_

**Follow the general guidelines for the Main Exercises assignments (the salmon colored handout).** Be sure to **staple** together your pages if you have more than one, and include your **name** at the top. Be **NEAT** and **SHOW YOUR WORK!!!**

**Due:** at the beginning of class on Friday, December 4th

**Remember:** Your write-up should be **your own**. You may discuss these problems with others, but **you should be alone when you write them up**, using only outlines of any group or Intern discussions. Be sure to show your work! How you get there is more important than the final answer. Make sure you read the complete question with all the directions and hints before starting a problem.

**Do NOT use the internet to do your homework!!!** This is your opportunity to LEARN it so that you know it for the quiz and the final exam...and, more importantly, for life!

**BEWARE! The first question is about sequences and the others are about series. Remember how these are similar and how they are different!!!**

1. Do Exercise 20 from Section 8.2 in the text (page 616) to determine whether the given sequence is convergent or divergent. Be sure to show detailed work; explain all steps.

2. Using your work from the first question, determine if the **series**  $\sum_{n=1}^{\infty} \left( \frac{n}{n+5} \right)^n$  is convergent or divergent. Be sure to show detailed work; explain all steps.

3. Do Exercise 60 from Section 8.3 in the text (page 623). Be sure to show detailed work; explain all steps.

4. Do Exercise 24 from Section 8.4 in the text (page 638). Be sure to show detailed work; explain all steps.