Name

(circle your TA discussion section)

- AD1, TR 11:00-12:50, Derek Jung
- AD2, TR 9:00-10:50, Claire Merriman
- AD3, TR 1:00-2:50, Itziar Ochoa de Alaiza Gracia
- ADA, TR 8:00-8:50, Dara Zirlin
- ADB, TR 9:00-9:50, Dara Zirlin
- ADC, TR 10:00-10:50, Xujun Liu
- ADD, TR 11:00-11:50, Christopher Linden
- ADE, TR 12:00-12:50, Christopher Linden
- ADF, TR 1:00-1:50, Alyssa Loving
- ADG, TR 2:00-2:50, Xianchang Meng
- ADH, TR 3:00-3:50, Xianchang Meng
- ADI, TR 4:00-4:50, Aaron Schneberger
- ADJ, TR 9:00-9:50, Elizabeth Field
- ADK, TR 10:00-10:50, Elizabeth Field
- ADL, TR 11:00-11:50, Emily Heath
- ADM, TR 12:00-12:50, Alyssa Loving
- ADN, TR 1:00-1:50, Aaron Schneberger
- ADO, TR 2:00-2:50, Tigran Hakobyan
- ADP, TR 3:00-3:50, Tigran Hakobyan
- ADR, TR 9:00-9:50, Xujun Liu
- ADS, TR 12:00-12:50, Emily Heath
- ADT, TR 2:00-2:50, Argen West
- ADU, TR 3:00-3:50, Argen West

- You may work with other MATH 220 students. However each student should write up solutions separately and independently – nobody should copy someone else’s work.

- You may use your notes, the textbook, or information found on my course home page.

- You may use a calculator only for basic arithmetic on problems 2 and 3.

- You are not allowed to search the Internet, use Wolfram Alpha, or use technology for anything beyond what is stated above.

- There is a higher expectation for the quality of your work on a take-home quiz. Everything should be written logically and legibly with sufficient work to justify each answer. Blank copies of the quiz are available on the course home page.

- Be sure that the pages are nicely stapled – do not just fold the corners.

- The quiz is due at the beginning of your official lecture period on Friday, November 20.

- Note to TAs and Tutors – you should not help students with these specific problems until I post solutions Friday evening.
1. (3 points) A calculator gives an estimate of 0.8187307531 for the value of \( \frac{e^2}{\sqrt{e^{11}}} \).

Using the techniques of linear approximation found in section 3.10, show that you are able to obtain a very similar estimate of 0.8 without the use of any technology.

2. (3 points) Let \( g(x) = \int_{-25}^{x^2} f(t) \, dt \). Use the techniques of linear approximation found in section 3.10 to approximate \( g(4.8) \) given the following information about \( f \).

- \( f \) is continuous on the interval \((-\infty, \infty)\)
- \( f \) is an odd function
- \( f(25) = \frac{1}{8} \)
3. (4 points) The function $g(x) = x^4 + 3x^2 - 5x$ has precisely one critical number. Determine the value of this critical number using Newton’s Method with an initial estimate of $x_1 = 1$. You should use this method 3 times in order to obtain estimates $x_2$, $x_3$ and $x_4$. You are only allowed to use technology for basic arithmetic. Use at least 5 decimal places in each estimate.