

Name _____

(circle your TA discussion section)

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| ▷ AD1 , TR 11:00-12:50, Hannah Kolb Spinoza | ▷ AD2 , TR 9:00-10:50, Ki Yeun Kim |
| ▷ AD3 , TR 1:00-2:50, Michael Santana | ▷ ADA , TR 8:00-8:50, Ziyang Pan |
| ▷ ADB , TR 9:00-9:50, Ziyang Pan | ▷ ADC , TR 10:00-10:50, Lisa Hickok |
| ▷ ADD , TR 11:00-11:50, Lisa Hickok | ▷ ADE , TR 12:00-12:50, Andrew McConvey |
| ▷ ADF , TR 1:00-1:50, Jian Liang | ▷ ADG , TR 2:00-2:50, Derrek Yager |
| ▷ ADH , TR 3:00-3:50, Lechao Xiao | ▷ ADI , TR 4:00-4:50, Lechao Xiao |
| ▷ ADJ , TR 9:00-9:50, Meghan Galiardi | ▷ ADK , TR 10:00-10:50, Meghan Galiardi |
| ▷ ADL , TR 11:00-11:50, Andrew McConvey | ▷ ADM , TR 12:00-12:50, Benjamin Fulan |
| ▷ ADN , TR 1:00-1:50, Benjamin Fulan | ▷ ADO , TR 2:00-2:50, Jian Liang |
| ▷ ADP , TR 3:00-3:50, Hongfei Tian | ▷ ADQ , TR 4:00-4:50, Hongfei Tian |
| ▷ ADR , TR 9:00-9:50, Noah Chartoff | ▷ ADS , TR 12:00-12:50, Derrek Yager |
| ▷ ADT , TR 2:00-2:50, Anna Weigandt | ▷ ADU , TR 3:00-3:50, Anna Weigandt |

- 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 or the textbook.
- Computers are not allowed on any problem. You may use a calculator only for basic arithmetic.
- The quiz should be submitted to Mr. Murphy at the beginning of your official lecture period on Friday, October 19th.
- 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.
- **Note to TAs and Tutors – you should not help students with these specific problems or go over solutions until after 5pm Friday.**

1. (3 points) Evaluate $\lim_{x \rightarrow 0} (1 - 5x)^{8/x}$

2. (4 points) Suppose that $f(x)$ is a function whose first derivative is given below.

$$f'(x) = \frac{2e^x (x^2 + 25) (x^2 - 16) (x - 3)^8}{\ln(x^2 + 100)}$$

Find all critical numbers of $f(x)$. At each critical number, state whether $f(x)$ has a local maximum, local minimum or neither at that point.

3. (3 points) Suppose that point A has coordinates $(0, 6)$, point B has coordinates $(0, -6)$, and point C has coordinates $(8, 0)$. Determine the coordinates for the point P on the x -axis for which the sum of the distances from P to each of the three points A , B and C is as small as possible.