Math 1552
Spring 2019
Quiz 5 6pm
February 18, 2019
Time Limit: 15 Minutes

Name (Print): _____

Canvas email: _____

Teaching Assistant/Section: _____

GT ID:

By signing here, you agree to abide by the **Georgia Tech Honor Code**: *I commit to uphold the ideals of honor and integrity by refusing to betray the trust bestowed upon me as a member of the Georgia Tech Community.*

Sign Your Name: _____

This quiz contains 2 pages (including this cover page) and 2 problems. Check to see if any pages are missing. Enter all requested information on the top of this page.

You may *not* use your books, notes, or any calculator on this quiz.

You are required to show your work on each problem on this quiz. The following rules apply:

- **If you use a "fundamental theorem" you must indicate this** and explain why the theorem may be applied.
- **Organize your work**, in a reasonably neat and coherent way, in the space provided. Work scattered all over the page without a clear ordering will receive very little credit.
- **Mysterious or unsupported answers will not receive full credit**. A correct answer, unsupported by calculations, explanation, or algebraic work will receive no credit; an incorrect answer supported by substantially correct calculations and explanations might still receive partial credit.
- Please circle or box in your final answer.

Problem	Points	Score
1	12	
2	8	
Total:	20	

1. (12 points) Evaluate the following integral:

$$\int \frac{x+5}{x^2+6x+9}dx$$

$\frac{x+5}{(x+3)^2} = \frac{A}{x+3} + \frac{B}{(x+3)^2}$] +3

$x+5 = Ax + 3A + B$

$A = 1 \quad B = 2$ +2

$\int \frac{1}{x+3} + \frac{2}{(x+3)^2}\,dx = \ln|x+3| - \frac{2}{x+3} + C$

+2 +2 +2 +1

2. (8 points) Evaluate the limit. Be sure to show your work.

$$\lim_{x\to 1^+} x^{1/(1-x)} \qquad 1^\infty$$

$y = x^{1/1-x}$ $\ln y = \frac{\ln(x)}{1-x}$ +3

$\lim_{x\to 1^+} \frac{\ln(x)}{1-x}$ $\frac{0}{0}$ L'Hopital: $\lim_{x\to 1^+} \frac{\frac{1}{x}}{-1} = -1$

+2 +1

$\lim_{x\to 1^+} y = e^{\lim_{x\to 1^+} \ln(y)} = \frac{1}{e}$] +2