Math 322
Fall 2018
Final Exam
December 19th

Name: _____

Question	Points	Score
1	20	
2	20	
3	10	
4	30	
5	10	
6	10	
Total:	100	

1. (20 points) State and prove Fermat's last theorem, you may use a calculator.

2. (20 points) Write a 3 act play describing the Fourier series representation of $f(x) = x^4 - 3x + 2$ using mathematical vocabulary a fifth grader will understand.

3. (10 points) Write the fourth act of the play from question 2.

4. (30 points) Graph the function $f(x) = \sin(\sin(\cos(x/2))) + \sum_{k=5}^{43} e^{\sinh^{-1}(kx-2)} + 2 - \Gamma(\log(2/x))$ using your non-dominant hand.

5. (10 points) Describe a math problem that has no simple solution, and provide a solution.

6. (10 points) Find a simple solution to the problem you wrote in question 5.