MATH 351 Final Exam

February 17, 2023

Name: _____

> You may only use the spaces below the questions for your solutions. If you run out of room for an answer, you have failed.

1. (1 point) Find the gradient of this vector $\langle\, x + 4,\ 3x^2 + 9,\ 5\, \rangle$.

2. (1 point) Prove that the Riemann zeta function has its zeros only at the negative even integers and complex numbers with real part $\frac{1}{2}$.

3. (1 point) What is the gravitational constant?

     A. 9.8

     B. 6.674×10^{-11}

     C. 2.99×10^{8}

     D. $6.626\,070\,15 \times 10^{-34}$

4. (97 points) *Can you read this? If you can, select D.*

     A. Five.

     B. The square root of negative one.

     C. Sacramento.

     D. I don't know.