

Name (Print). \_\_\_\_\_

Math 3670 QUP Summer 2022

*Mock Test*

2022-05-23

Honor Code Certification

I certify that I have abided by the rules of the Georgia Tech honor code for student conduct on exams and by the specific rules on reference materials for this exam, and that I have neither given nor received assistance during this examination.

I certify that I have read this statement and understand it.

Signature: \_\_\_\_\_

Student-ID, last 3 digits: \_\_\_\_\_

\* \* \*

**This mock test will not be counted towards your final grade.**

1. A metal rod with non-uniform density is placed on the real line. It starts at  $x = 0$  and ends at  $x = 3$ . It is known that the linear mass density of the metal rod is given by the function  $\rho(x) = x^2, 0 \leq x \leq 3$ . Determine the mass of the metal rod from  $x = 2$  to  $x = 3$ .
2. In how many ways can we split 2 people into two groups, with 1 person in each group? What if we name one group the red group and the other the blue group?