Name: _____
Email: _____

Math Club: Biweekly Contest Week One

Release Date: January 31, 2024
Instructions: Solve the following problem as best you can. The first student to submit the correct solution via email to tamumathcontest@gmail.com or to Jeremy Kubiak in Blocker 336D (with time stamp) wins!

Problem 1. Suppose that $x, y,$ and z are positive real numbers such that

$$x^2 + xy + y^2 = 247, \quad y^2 + yz + z^2 = 433, \quad \text{and} \quad z^2 + zx + x^2 = 309.$$

Compute the value of $xy + yz + zx$ and show your work.