BI-CO MATHEMATICS COLLOQUIUM

William Gasarch

University of Maryland

"The Muffin Problem"

Monday, January 30, 2023
Talk at 4:00 p.m. – Hilles 109
Tea 3:30 p.m. – Foyer outside of H109

Abstract:

Let's say you have 5 muffins and you want to cut them up and give them out to Alice, Bob, and Carol so that they each get 5/3. This is easy! You can cut each one into 1/3-1/3-1/3 and give each person five 1/3-pieces. But then the smallest piece is 1/3. Can we do better? Is there a way to divide 5 muffins for 3 people so that the smallest piece is BIGGER than 1/3? What is the BEST you can do?

More generally… Given m muffins and s students, how can you divide m muffins for s students so that each student gets m/s and the SMALLEST piece is MAXIMIZED? We will discuss various techniques to solve this problem. We will also discuss why this was a good research project.

HAVERFORD COLLEGE