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William Gasarch* (gasarch@cs.umd.edu), **Guangqi Cui, John Dickerson, Naveen Durvasula, Erik Metz, Naveen Raman** and **Sung Hyun Yoo.** *The Muffin Problem.*

Consider the following problem:

You have 5 muffins and 3 students. You want to divide the muffins evenly so that everyone gets $5/3$ of a muffin. You can clearly divide each muffin in 3 pieces and give each person $5/3$. Note- the smallest piece is of size $1/3$.

Is there a procedure where the smallest piece is bigger than $1/3$? (Hint: You Can!)

More generally: What is the best you can do with m muffins and s students? We will talk about many of our General Theorems we have on this problem. And more concretely we will:

1. Establish what happens when the number of students is 1,2,3,4.
2. What about $s=5$? Hmm. That's when things get weird. How weird? Come and find out!

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