

## **Barge Problem #1**

**The profs must be crazy!**

You are taking Math 499, a really really hard math course which is being team taught by Professors Gaugler and Zulli. You walk into class and taped to Gaugler's forehead is the number 9,895,625,675,438 and taped to Zulli's forehead is the number 9,895,625,675,439. (They see the other person's number but not their own.) To make things stranger Gaugler asks Zulli "Do you know your number?" To which Zulli says "Nope." Then Zulli asks Gaugler "Do you know your number?" To which Gaugler says "Nope". As if stuck in a loop, they continue asking each other this same question and getting the same response over and over again.

Upon seeing you in the common room, they pause and explain that they have been engaged in this exchange all night with the goal of trying to figure out the number taped to their own forehead. They tell you that they know the numbers involved are consecutive positive integers. They also explain that they can only ask/answer the question: "Do you know your number?".

Have Gaugler and Zulli gone off the deep end? Will they eventually be able to figure out their number using this scheme? If so, roughly when will this happen?

**Due by 6am on Saturday, February 11th. *Neatly* written or typed submissions may be emailed to bloomjs@lafayette.edu.**