

Spring 2010

Barge Problem 1

The truth about hamsters: After hibernating in December and January, hamsters are active again. Here are some important characteristics of hamsters (at least, for this problem):

- Hamsters can speak.
- Hamsters who went to Lafayette are happy creatures, and they always tell the truth.
- Hamsters who went to Lehigh are nasty, and they always lie.

One day, you meet three hamsters, Groucho, Chico, and Harpo, in your travels. You know that each of these hamsters went to either Lafayette or Lehigh. You also know one of them has your calculus book, and you need to find your book. When you meet them, this is what they say to you:

Groucho: Chico has your book.

Chico: At least two of us went to Lehigh.

Harpo: I don't have your book.

This isn't enough information for you to figure out who has your book, so you ask Chico directly: "Who has my book?" Chico then names one of the three of them. After thinking about his answer, you know now who has your book.

Your task: Figure out who has your book and explain all your reasoning carefully.

The Rules:

1. Form a team with other Lafayette students. Each team must have 3, 4 or 5 members.
2. Solve the Problem of the Week with your team. The weekly problem will be posted on the department web page and in the Math Dept. There will be 8 problems during the semester.
3. Get your solution to Gary Gordon by Saturday, Feb. 13 at 6:00 a.m. You can either turn in a hard copy or send your solution by email to gordong@lafayette.edu.

Deadline: Saturday, Feb. 13 at 6:00 a.m.