SCI 199Y: Random Walks and Mathematical Discovery

Discussion questions, week 18.

You have read "Studying students studying calculus: A look at the lives of minority mathematics students in college", by Uri Treisman.

Working on your own, consider (and make notes about) the following questions.

1. What problem was Treisman's project attempting to address? What was the extent of this problem? Why (according to Treisman) was it important?

2. What four "widely-held beliefs" about the causes of minority student failure (in mathematics classes at Berkeley) were identified by Treisman's survey? Were these beliefs confirmed by Treisman's study?

3. What does Treisman mean when he refers to "a few older faculty members who had views about the effects of race and heredity and the like"?

4. According to Triesman's study of 20 Black and 20 Chinese students, what were the *true* differences between the Black and Chinese mathematics students at Berkeley?

5. What solutions did Treisman and his co-workers develop, to address the problem of minority student failure in calculus classes? (Give as much detail as possible.) Were these solutions successful? Do you think they were/are a good idea? (Relate your answers to our previous class readings if possible.)

Note: For next week, be sure to bring your "data" (from the experiment done in Week 14), about how many times your random walk returned to 0 after the 4^{th} roll, and after the 10^{th} roll.

Reading assignment for next week: Read the excerpt about genetic and environmental influences on I.Q. scores, from "Psychology", by H. Gleitman (the current PSY 100Y textbook!).