

## SCI 199Y: Random Walks and Mathematical Discovery

### Discussion questions, week 22.

You have read the excerpts about mathematical understanding and research from “I want to be a mathematician”, by P.R. Halmos.

Working on your own, spend about 15 minutes considering (and making notes about) the following questions. We will then discuss them as a whole class.

1. What teachers does Halmos cite as having had special influence on him? What influences did they have? Can you “identify” with Halmos’s experiences?
2. Why does Halmos feel students should not do their undergraduate and graduate studies at the same university? Do you agree with him? Do you feel that his general thinking also applies to other issues besides mathematics education?
3. What is your reaction to Halmos’s contention that “all work and no play is the only way to get anything done”, and that “two consuming passions are one too many”? Do you think other mathematicians share this attitude? What effect does this attitude have on students who are considering studying mathematics?
4. What is your reaction to Halmos’s description of mathematics as “trial and error, experimentation, guesswork”? Does this remind you of any previous class readings?
5. What does Halmos “actually do” (p. 323) when doing research? What is your reaction to this? Do you think that all other mathematicians work the same way?
6. What does Halmos mean by “the same hidden cave where authors find their plots and composers their tunes” (p. 324)?
7. In what ways (if any) have these excerpts changed your view of mathematics and mathematicians?

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**Assignment for next week:** Work on your Major Paper! Be prepared to present your chosen topic and to provide a list of specific references or other sources that you are planning to use. Don’t forget that the paper itself is due on Monday March 31, by 4:00 p.m.

(No reading assignment this week.)