

SCI 199Y: Random Walks and Mathematical Discovery

Discussion question, week 7.

You have read the article, “Solving equations is not solving problems”, by Jerome Spanier.

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

Question. For each of the following authors, consider: How would they feel about Spanier’s “Mathematics Clinic”? How would Spanier feel about their ideas?

- (a) D.W. Johnson & R.T. Johnson (the authors of “Cooperative Learning and Learning Mathematics”);
- (b) the authors of the NCTM “Standards”, and Deborah Hughes-Hallett (the first author of the calculus-reform book “Calculus”);
- (c) G. Polya, T.M. Rassias, and I. Stewart (the authors of the three short statements about mathematics);
- (d) R.L. Moore and P.R. Halmos (advocates of the “Moore method” of teaching mathematics);
- (e) Lyle L. Jones (author of “Using Cooperative Learning to Teach Statistics”);
- (f) Sheila Tobias (author of “Overcoming Math Anxiety”); and
- (g) you.

Assignment for next week: Read the one-page excerpt about prime numbers from “What is Mathematics?”, by R. Courant and H. Robbins; try to understand the mathematical result being described there. Also read the four-page excerpt from “The psychology of invention in the mathematical field”, by J. Hadamard. These readings will form the basis for a group activity next week.