

**Math 425, Section 7, Winter 2003: Introduction to Probability –
Writing Supplement**

Second Assignment:

This assignment will be to write a letter to *Parade* magazine, answering some critics of the columnist Marilyn Vos Savant. To do this properly, you will first have to understand problems 7 and 8 on p. 104 of Ross, and the following problem: *A woman is known to have at least one daughter. What is the probability that she has two daughters?* You might try explaining the idea of conditional probability, or give examples which might be clearer. Be sure to try to elucidate what the hidden assumptions are which people make in dealing with this problem. Explain whether or how the last problem differs from the other two.

A sample of some of the responses MVS received for her (correct) answer to a problem equivalent to the one in italics above is available linked to the 425 website. What mistake do you think people were making, or were they mistaken? Why do they get so angry about the difference of opinion about a mathematical calculation such as this?

For a further sample of such correspondence, see the book *Ask Marilyn: Answers to America's Most Frequently Asked Questions* (St. Martin's, New York, 1992), especially section 26, pp. 195-215, *Choice, Chance and Lotteries*, which is entirely about probability. Unfortunately, the U of M library doesn't have a copy of this. It may be out of print, since I didn't see it listed at amazon.com. I have a xerox of most of section 26, if I get the time, I may scan it and put it on the 425 site. (PS: The Ann Arbor District Library has a copy.)

Another mathematical reference for these problems is section 4.3, *Paradoxes*, in the book of Grinstead and Snell in our course reserves. See pages 185 to 192. The library has this book, and you can link to it from the class web page, for a publicly accessible, full-text version.

The assignment is due Monday, February 3. Your letter should be about three pages long, but if you get said what you need to say in less, *don't pad it*.