



SPECIAL PROGRAMS
Reed College
3203 Southeast woodstock boulevard
Portland, Oregon 97202-8199

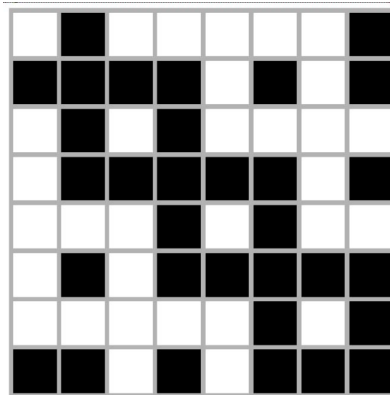
F. L. Griffin Mathfest
Saturday, February 11, 2012
9:30 a.m. - 3:00 p.m.

PROBABILITY BY EXAMPLE

The object of this short course is to introduce the ideas of probability theory by means of problems. We will consider only problems involving finite sets of events and our calculations will require nothing more than simple arithmetic. We will begin by describing the basic principles of counting, so that we can determine the number of events in complicated sets. Then we will introduce a series of inter-related problems: at first simple problems, then more difficult, in the end quite hard problems. The problems will be drawn from games of chance, from geometry, and from natural science. We will take care to describe, by example, the idea of conditional probability, which gives the subject of probability theory its great utility. We also will call attention to certain paradoxes in the subject.

The program will be conducted at Reed College by Thomas Wieting, professor of mathematics, assisted by Reed students. The class sessions will run for two hours in the morning and the afternoon. Notes and problem books will be distributed at the beginning of the first session. Students will work in groups and will present their conclusions informally to each other. Calculators would be useful but are not required.

Sample problem:



*What is the probability that a fabric, comprised of 8 warp (vertical) threads and 8 weft (horizontal) threads woven at random, will hang together?
“White” means that the weft thread lies on top; “black” means the warp thread lies on top.*

Lunch and a campus tour are provided over the noon hour. High school mathematics teachers are welcome and encouraged to attend. There is no cost to participants.

Prerequisites:

- High school juniors and seniors
- Interest in a serious investigation of the topic.

Registration deadline is Monday, February 6, 2012; Enrollment is limited to 25 students.
http://web.reed.edu/outreach_programs/griffin_mathfest/index.html