



Irvin Hentzel is a professor of mathematics at Iowa State University.

Current research focuses on applying the computer to algebraic problems. The size of the problems requires that he write special code.

During his career Hentzel has enjoyed working with other mathematicians from all over the globe, including Canada, Chile, Brazil, Spain, Egypt, Germany, Russian, England, France and Italy.

## 2011-12 Colloquium

Tuesday, January 31 in Carver 268 at 4:10 p.m.

### *How to win at Farkle*

FARKLE is a dice game which has been around since World War II and is currently played on Facebook. The players throw dice, and earn points when certain patterns appear like three of a kind, or three pairs. The player continues throwing and saving out valued combinations. If s/he managed to use all six dice, s/he gets another turn. If s/he makes a throw that has no value at all, s/he loses all the points accumulated so far during the turn. To play successfully, one must make decisions based on the expected value of the possible actions. I have computed the expected values and use these to explain a good strategy for play. Since there are many versions of FARKLE, the program can be easily modified for various changes in the point scoring values. But some of the more exotic rules like instant win for throwing 6 ones is not covered.

I am indebted to Mark Hunacek for his class notes for 104 which give the Facebook rules as well as probabilities for throwing a valueless hand. He is also a great person to talk with about FARKLE.