

Friday, December 1, 2023, 4:00 pm

COLLOQUIUM TALK

Speaker: Gregory Galperin (EIU)

Old Main 2231

The Strong Law of Small Numbers

Abstract: The aim of my talk is to show several interesting unusual examples of arithmetic, algebraic, and geometric patterns that *seem* to appear when we look at several small values of n . The question will be, in each case: do you think that the pattern persists for all n , or do you believe that it is a figment of the smallness of the values of n that are worked out in the examples? Examples of both kinds will appear; they are not all figments! For each example, the audience will tell me your opinion as to whether the observed pattern is known to continue, known not to continue, or not known at all.

To get started, think about the following question.

QUESTION: *Is it possible to rearrange the digits of the number 2^n so as to form a number 2^m with $m > n$?* (Small values of $2^n > 16$ show it's impossible; will this pattern continue indefinitely?)

The problems discussed will be understandable to everyone, including math major students whom I urge to attend my talk.
