

# Missoula Math Circle

## Math Beyond the Classroom

Session 2: Thursdays, February 21 – March 28, 2013  
3:30 – 5:00 UM Campus

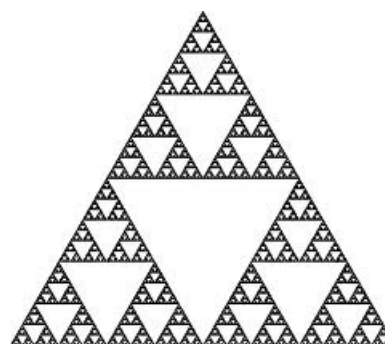
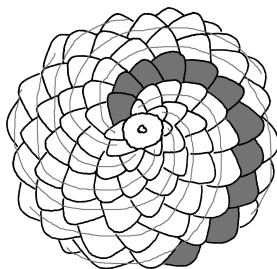
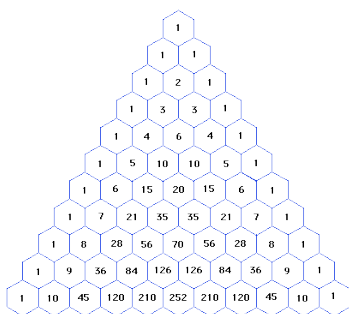
Students who enjoy solving puzzles, figuring out things, and math are invited to attend Missoula Math Circle meetings. At these meetings we learn, explore and create math! Come and bring a friend.

Inquiry-based exploration and group problem solving will be emphasized; this means hands- on activities not lectures! Sign up today.

### During this six week session we will focus on Numbers, Numbers, Numbers

Did you know....

- the security of internet transactions is based on the belief that it is hard to factor a number into the product of primes? (By “hard” we mean that it takes a long time!.)
- the spirals on pinecones, petals on flowers, and swirls on a pineapple follow the same pattern as the Fibonacci numbers –  
1 1 2 3 5 8 13 ....
- Pascal’s triangle gives us binomial coefficients, that is the coefficients of  $(a+b)^n$ . It also gives us the Sierpinski Triangle (a fractal) when we reduce the entries modulo 2 .
- Researchers in central Missouri found the largest prime number known to date in January 2013? The number is  $2^{57,885,161} - 1$  and it has over 17 million digits!
- There are infinitely many prime numbers? Can you prove it? This was one of the first math “proofs”!



### DETAILS

Program and Registration Information: <http://www.math.umt.edu/mathcircle/>

Instructors: UM Professors and Graduate Students

Information: WEB: <http://www.math.umt.edu/mathcircle/> EMAIL: [mathcircle@mso.umt.edu](mailto:mathcircle@mso.umt.edu)

Organizers: Professor Jenny McNulty \* 243-2473 \* [jenny.mculty@umontana.edu](mailto:jenny.mculty@umontana.edu)  
Professor Kelly McKinnie \* 243-5694 \* [kelly.mckinnie@umontana.edu](mailto:kelly.mckinnie@umontana.edu)