

$$\frac{1}{2} + \frac{1}{4} + \frac{1}{8} + \frac{1}{16} + \dots = \frac{1/2}{1 - (1/2)} = 1.$$

$$\frac{1}{2} - \frac{1}{4} + \frac{1}{8} - \frac{1}{16} + \dots = \frac{1/2}{1 - (-1/2)} = \frac{1}{3}.$$

$$\lim_{n \rightarrow \infty} n^{\frac{1}{n}} = 1$$

$$\binom{n}{k} = \frac{(n-0)}{(k-0)} \times \frac{(n-1)}{(k-1)} \times \frac{(n-2)}{(k-2)} \times \frac{(n-3)}{(k-3)} \times \dots \times \frac{(n-(k-1))}{(k-(k-1))}$$

FLINT MATH CIRCLE

# FLINT MATH CIRCLE



IT MATTERS

$$\binom{n}{r} = \frac{n!}{r!(n-r)!}$$

$$\int \left( \sum_k a_k 1_{S_k} \right) d\mu = \sum_k a_k \int 1_{S_k} d\mu$$

<http://flintmathcircle.kettering.edu>

## Recapture the joy of Mathematical Creativity

*If you truly love Math, then  
This is the place to be!*

**Thursdays**

**4-6pm**

Room 2-225, Academic Building,  
**Kettering University**  
1700 West Third Avenue  
Flint, MI 48439

**Middle School** students,  
**High School** students and  
**College** students who  
**truly love math** and are  
**interested** in exploring  
**deeper** aspects of **mathematics** will  
**enjoy** our sessions tremendously.

$$\lim_{n \rightarrow \infty} \frac{1}{n^p} = 0 \text{ if } p > 0$$

## Come Join Us,

*Let's Have Fun With Math in  
a Relaxed Yet Supercharged  
atmosphere! Email us:  
[mathcircle@kettering.edu](mailto:mathcircle@kettering.edu)*

$$\|f\|_p = \left( \int |f(x)|^p dx \right)^{1/p}$$

### FLINT MATH CIRCLE

Dr Ernest Fokoue, Coordinator  
Dept of Science and Mathematics  
Kettering University  
1700 W. Third Ave, Flint, MI 48504  
Phone: 810-762-7930  
Fax: 810-762-9796  
E-mail: [mathcircle@kettering.edu](mailto:mathcircle@kettering.edu)

- **Number Theory**  $x^n + y^n \neq z^n, (x, y, z \neq 0, n > 2)$
- **Abstract Algebra**
- **Chaos Theory**
- **Probability and Statistics**
- **Applied Math**

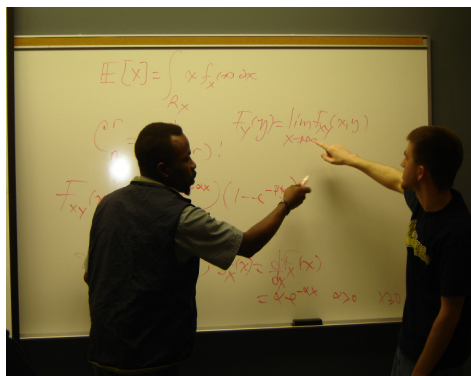
- **Geometry**
- **Foundations of Computing**
- **Cryptography**
- **Game Theory**
- **Artificial Intelligence**

$$\Pr(|X - \mu| \geq k\sigma) \leq \frac{1}{k^2}$$

Each week, we choose an exciting mathematical theme/topic, and we invite a great mathematician—who is a specialist in that topic—to come and animate the session. You, the young math enthusiast then join us at the Flint Math Circle on Thursday, at 4pm, and explore the amazing facets of Math along with other young enthusiasts, all in the company of an academically active accomplished mathematician. Our sessions are interactive. You are not given answers! You are provided with hints to guide you in the right direction, so that you end up discovering the answer for/by yourself. Clearly, that sharpens your creativity. In fact, we also bring in experts on creativity to help unleash your creative genius. Our topics include:

- Examining the connection between rearing rabbits and Internet security.
- Exploring Mathematical Coincidences (The Famous Birthday Problem).
- Probing the Intricate Mathematics behind Video Games.
- How does Combinatorics help find the Odds of Winning the Jackpot?
- Fractals, Chaos theory and Mathematical Art: How are these related?
- What are Probabilistic Matrices? How do they help figure out the Gambler's ruin?
- How is Mathematics used in Forensic Science to decipher crimes?

If you are interested in joining the circle, please visit our website for more information, or send an email to [mathcircle@kettering.edu](mailto:mathcircle@kettering.edu) with your name, email address and info.



$$\sum_{k=0}^{\infty} ar^k = \lim_{n \rightarrow \infty} \sum_{k=0}^n ar^k = \lim_{n \rightarrow \infty} \frac{a(1 - r^{n+1})}{1 - r} = \lim_{n \rightarrow \infty} \frac{a}{1 - r} - \lim_{n \rightarrow \infty} \frac{ar^{n+1}}{1 - r} = \frac{a}{1 - r}$$