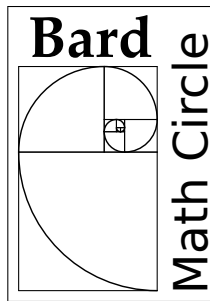


Problems

A few problems from Math Kangaroo:



February 2013

bardmathcircle@gmail.com

bardmathcircle.blogspot.com

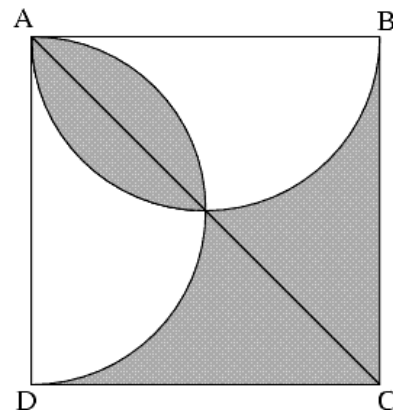
1. What is the remainder when the sum $2010 + 2011 + 2012 + 2013 + 2014$ is divided by 2013?
2. What is the value of the expression:
 $(1 - 2) - (3 - 4) - (5 - 6) - (7 - 8)$?
3. The number x was multiplied by 0.5 and the product was divided by 3. The result was squared and 1 was added to it. The final result was 50. What was the value of number x ?
4. Two semicircles with diameters AB and AD were inscribed in square $ABCD$ (see the figure). If $|AB| = 2$, then what is the area of the shaded region?

Student Corner

What is the hidden message?

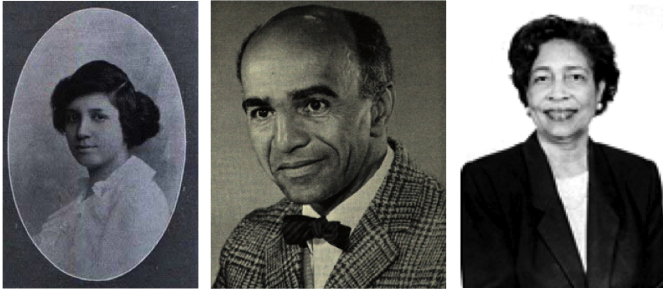
THE BOTTOM OF THE HEAP
THE START OF EVERYTHING
THE MIDDLE OF THE DAY
THE CENTER OF FOCUS
THE BEGINNING OF THE END

(Communicated to the math circle, via Katie.)



Black History Month

Puzzles



Martha Euphemia Lofton Hanes

1890–July 25, 1980.

The first African American woman to earn a Ph.D. in Math (Catholic University, 1943) Born and raised in Washington D.C. She went on to teach in D.C. public schools for 47 years. She was a member of the school board for six years and following that was president for seven years.

www.math.buffalo.edu/mad/

PEEPS/haynes.euphemia.lofton.html

David Blackwell

April 24, 1919–July 8, 2010.

Blackwell is the 7th African American to earn a Ph.D. in Mathematics. (University of Illinois, 1941, at age 22!) He is the only African American to be a member of the National Academy of Sciences. Blackwell fell in love with mathematics when he took his first analysis course in his junior year at University of Illinois. He didn't like calculus much but enjoyed analysis very much and realized then that mathematics was beautiful.

www.jbhe.com/news_views/

49_mostcited_blackmathematicians.html

Etta Zuber Falconer

November 21, 1933–September 19, 2002.

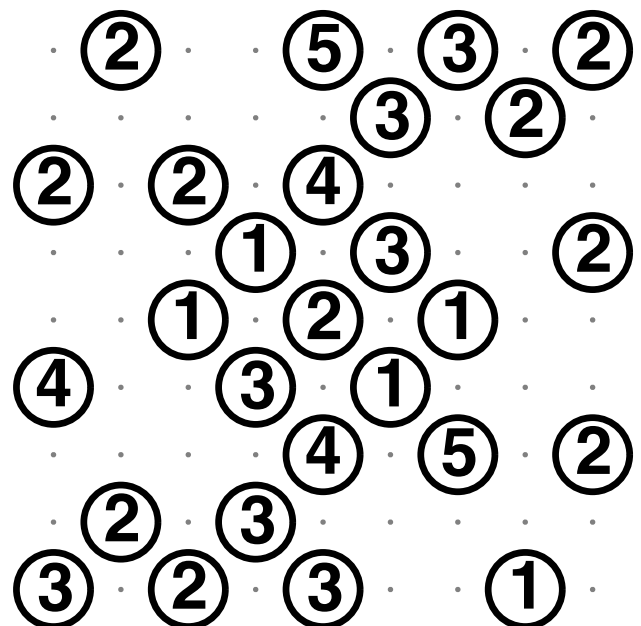
Studied Mathematics and minored in Chemistry. Was the sixteenth African American women to complete her Ph.D in Math (Emory University, 1969). Founder of the National Association of Mathematics. Highly involved in helping African American female students get into graduate level programs.

www.maa.org/summa/archive/falconer.htm

KenKen: Place the numbers 1, 2, 3, 4 and 5 in the grid below, so that each appears once in each row and column. The numbers in each cage, when combined with the operation given, must result in the target number shown. lavoze.bard.edu

6×	12+		10×	
		96×		1-
7+				
			9+	1-
2÷				

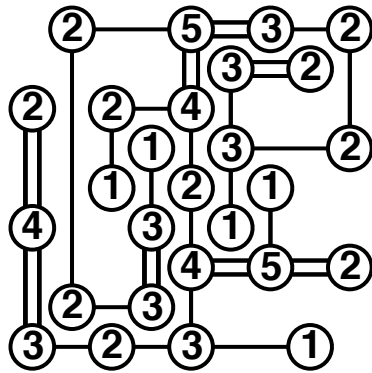
Bridges: Connect islands with single and double bridges. All bridges must be vertical or horizontal, and the numbers indicate exactly how many bridges leave the island. Bridges may not cross, and the result is *simply* connected. krazydad.com



Answers (Not the same as solutions!)

2008, 2, 42 or -42, 2, PEACE.

^{6×} 2	¹²⁺ 4	3	^{10×} 5	1
3	5	^{96×} 1	2	¹⁻ 4
⁷⁺ 1	3	2	4	5
5	1	4	⁹⁺ 3	¹⁻ 2
²⁺ 4	2	5	1	3



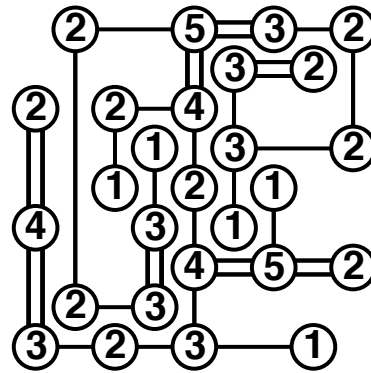
Upcoming Events

Tivoli: Friday, February 1st
 Kingston: Saturday, February 9th
 Kingston: Saturday, March 9th
 Kingston: Saturday, April 13th (Tesselations)
 Kingston: Saturday, May 11th (Chalk Walk)
 Info: bardmathcircle.blogspot.com.

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