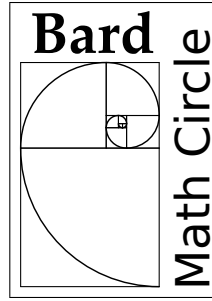


Problems

Sample questions from the AMC 8



November 2012

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bardmathcircle.blogspot.com

1. Alice needs to replace a light bulb located 10 centimeters below the ceiling in her kitchen. The ceiling is 2.4 meters above the floor. Alice is 1.5 meters tall and can reach 46 centimeters above the top of her head. Standing on the stool, she can just reach the light bulb. What is the height of the stool, in centimeters?

2. The length of a rectangle is increased by 10% and the width is decreased by 10%. What percent of the old area is the new area?

3. What is the correct ordering of the three numbers 10^8 , 5^{12} , and 2^{24} ?
(A) $2^{24} < 10^8 < 5^{12}$ (B) $2^{24} < 5^{12} < 10^8$
(C) $5^{12} < 2^{24} < 10^8$ (D) $10^8 < 5^{12} < 2^{24}$
(E) $10^8 < 2^{24} < 5^{12}$

Student Corner

A square is inscribed in a circle that is inscribed in a square. Find the ratio of the two areas. (The Art and Craft of Problem Solving, via Jeff.)

November Math History

Charlotte Angas Scott

June 8, 1858–November 10, 1931. One of England's first women to obtain a doctorate in mathematics (1885). Left England for the US to lead the math department at Bryn Mawr College.

www-history.mcs.st-andrews.ac.uk/

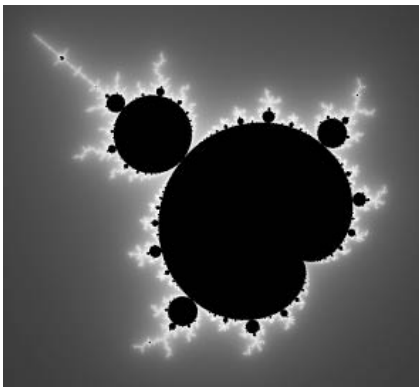
Mathematicians/Scott.html



Benoit Mandelbrot

20 November, 1924–14 October, 2010. In 1975, coined the term *fractal* to describe self-similar structures, including the Mandelbrot set pictured below.

en.wikipedia.org/wiki/Benoit_Mandelbrot

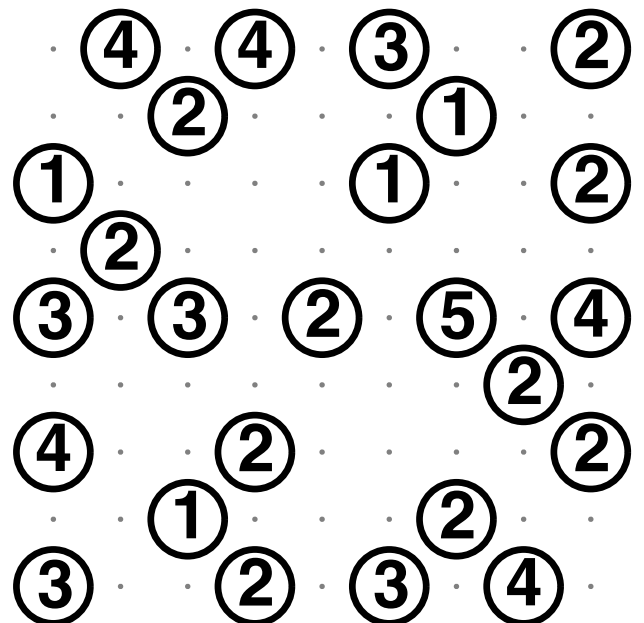


Puzzles

KenKen: Place the numbers 1, 2, 3, and 4 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

12×			6×
5+	1-		
	2÷		
1-		1-	

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. krazydad.com

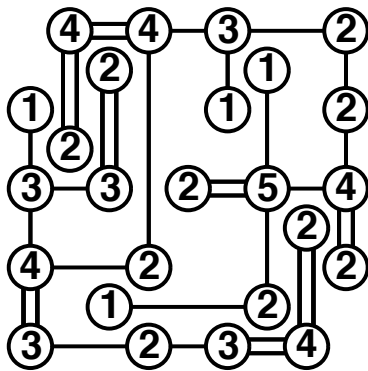


Answers (Not the same as solutions!)

Problems

- 34cm.
- 99%
- A.

^{12×} 3	4	1	^{6×} 2
⁵⁺ 4	¹⁻ 3	2	1
1	^{2÷} 2	4	3
¹⁻ 2	1	¹⁻ 3	4



Upcoming Events

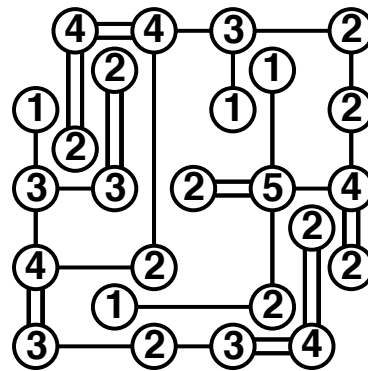
Kingston: Saturday, November 10th
 AMC-8 Exam: Tuesday, November 13th
 Info: bardmathcircle.blogspot.com.

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