Augarithms

Mathematics Colloquium SPRING Lineup

Colloquia are now typically held Wednesdays 3:40—4:40 in Oren 111. Refreshments are always provided.

Feb.→ 27   Matt Haines, Augsburg College*
Mar.   12   TBA
Apr.   2   Student talks
Apr.   16   Michael Conklin, Advanced Analytics

Problem of the week...

We received a solution to the POTW of vol. 21.01 from **Scott Erway** of Itasca Community College. The POTW from vol. 21.05 was solved by **Maggie Flint**, South HS, **Mike Fox**, Augsburg, with a uniqueness proof by **Michael Janas**, Augsburg. Here is the new POTW.

How many ways are there to spell AUGSBURG COLLEGE by starting at the top of the diamond and moving downward, one row at time, to adjacent letters? (One of the possible paths is shown.)

```
        A
       U U
      G G G
     S S S S
    B B B B B
   U U U U U U
  R R R R R R R
 G G G G G G G G
C C C C C C C C C
 O O O O O O O O
  L L L L L L L
   L L L L L L
    E E E E E
     G G G G
      E   E
         G
         E
```

Submit solutions to kaminsky @augsburg.edu, or under Ken Kaminsky's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.
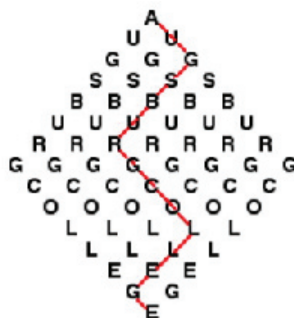
Puzzle/Problem of the week...

We received solutions to the Puzzle of the Week of vol. 20.04 from **Maggie Flint**, of South HS, and **Brian Love**, of Augsburg. Here's the new PuOTW:

Arrange the integers from 1 to 15 in a row in such a way that the sum of any two adjacent integers in the list is a perfect square.

Submit solutions to kaminsky@augsburg. edu, or under Ken Kaminsky's door at SCI 137E, or in the puzzles and problems box just outside of Su's office.

*This Week's Speaker...

An Introduction and Application of Voting Theory and Apportionment

Matt Haines, Augsburg College

" 'I do solemnly swear that I will faithfully execute the Colloquium of the Augsburg Mathematics Department, and will to the best of my ability, pervert, redact and defame the constitution of the Unit', he states" is the opening line of the fictitious book "I Ran for President of Minnesota".

Of course, this is fanciful and makes no sense. There are occurrences in voting and apportionment that, on the surface, make no sense. Some of these paradoxical situations will be presented along with an introduction to voting and apportionment systems. A primer of the caucus system in Minnesota will reveal whether or not potential paradoxical situations could emerge from the fanciful to reality.

The Following are Reportedly from actual High School Essays. Enjoy

1. Her face was a perfect oval, like a circle that had its two sides gently compressed by a Thigh Master.

2. She had a deep, throaty, genuine laugh, like that sound a dog makes just before it throws up.

3. Her vocabulary was as bad as, like, whatever.

4. He was as tall as a six-foot-three-inch tree.

5. Long separated by cruel fate, the star-crossed lovers raced across the grassy field toward each other like two freight trains, one having left Cleveland at 6:36 p. m. traveling at 55 mph, the other from Topeka at 4:19 p. m. at a speed of 35 mph.

6. Even in his last years, Grandpappy had a mind like a steel trap, only one that had been left out so long, it had rusted shut.

7. The plan was simple, like my brother-in-law Phil. But unlike Phil, this plan just might work.

8. The young fighter had a hungry look, the kind you get from not eating for a while.

9. He was as lame as a duck. Not the metaphorical lame duck, either, but a real duck that was actually lame. Maybe from stepping on land mine or something.

10. It hurt the way your tongue hurts after you accidentally staple it to the wall.

11. From the attic came an unearthly howl. The whole scene had an eerie, surreal quality, like when you're on vacation in another city and Jeopardy comes on at 7:00 p. m. instead of 7:30.

Cartoon Corner
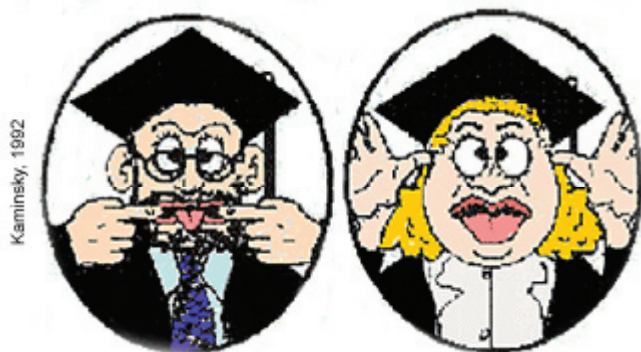
Academia Nuts

From the Dictionary of Theories*

Isoperimetric problem (late 17th century) The solution of this problem sparked a battle between the Swiss brothers James Bernoulli (1654-1705) and John Bernoulli (1667-1748) in 1691.

James withheld his solution, while John publicized an incorrect solution and claimed that his brother had none. In 1701 James presented his solution to the Paris Academy, but it remained in a sealed envelope until after his death. Even when James' solution was made public in 1706, John refused to admit his own error. The classical name for the problem is Dido's problem, named after the legendary first queen of Carthage.

A fundamental problem in the CALCULUS OF VARIATIONS, which goes back to the problem of finding a curve of a given length which encloses a maximum area. According to Virgil, Dido was offered whatever area of land she could enclose with an ox hide on which to found her city. She solved the problem by turning the ox hide into cord and enclosing a large circle, which is the shape that maximizes the area.

M Hazewinkel, ed., *Encyclopaedia of Mathematics* (Dordrecht, 1988)

*Reprinted with permission from the *Dictionary of Theories*, by Jennifer Bothamley.

Born on this Day...

… February 27, 1881, in Overschie (now a suburb of Rotterdam), Netherlands, **L E J Brouwer** was a Dutch mathematician best known for his topological fixed point theorem. He founded the doctrine of mathematical intuitionism, which views mathematics as the formulation of mental constructions that are governed by self-evident laws.

He was made a Fellow of the Royal Society in 1948, an Honorary Fellow of the Edinburgh Maths Society in 1954, and a Fellow of the Royal Society of Edinburgh in 1955.

As is the case with many famous mathematicians, Brouwer had a lunar crater named after him. →