



Math Mole

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After the 4th

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This issue

- Mathematician of the Day
- Quotes of the Day
- Puzzles
- Today's Editor: Safwan
- Tomorrow's Editor: John

Quotes:

If people do not believe that mathematics is simple, it is only because they do not realize how complicated life is.
—John Louis von Neumann

Black holes result from God dividing the universe by zero. —Author Unknown

If you think dogs can't count, try putting three dog biscuits in your pocket and then giving Fido only two of them. —Phil Pastoret

The essence of mathematics is not to make simple things complicated, but to make complicated things simple. —S. Gudder

Puzzle1: If you were to construct a 8 x 8 checkered square (i.e., a 8 x 8 chess board), how many squares would there be in total? (And we don't just mean the obvious 64).

Puzzle2: A number of children are standing in a circle. They are evenly spaced and the 4th child is directly opposite the 17th child. How many children are there altogether?

Puzzle3: If the difference of two numbers is 9 and their product is 16, what is the sum of their squares?

Mathematician of the Day



Pierre de Fermat, 1601-1665, France

Pierre de Fermat is famous for Fermat's Last Theorem that states that the equation $x^n + y^n = z^n$ has no solutions when all of the variables are integers (numbers in the set $\dots, -2, -1, 0, 1, 2, 3, \dots$), n is greater than 2, and $x, y,$ and z are not all 0. He first stated this theorem, in the margin of one of his books, along with a note that the margin was not big enough to hold the proof. This theorem was not published until after his death. Though he wrote many letters about his discoveries, he published very little. It's been said that Fermat never wanted anything to be published because he considered math to be his hobby not a profession. For hundreds of years, nobody could find a correct proof of the theorem. It was proven by Andrew Wiles.

Today:

5.6 and as much of 6.1-6.2 as we can; a little World Cup action; and a lab on digital signal processing

Tomorrow: Orthogonality and basis in the context of least squares (6.3-6.4)