A Mathematical Gallery
by Lisl Gaal

During a long and illustrious mathematical career, Lisl Gaal took the time to share the whimsical side of her mathematical vision with her children and grandchildren through fanciful and appealing illustrations. This side of Lisl Gaal’s work has, through the efforts of her children, been collected into a book with commentaries reflecting the author/artist’s unique take on math and its relation to the simple joys of everyday life.

This book is not geared toward a particular age group and ranges in topics from counting to calculus to Gaussian primes and Markov processes, and much more. A child of 3–5 years may appreciate the familiar family-oriented scenes that have a little extra to make them curious. An older child may enjoy the challenges and puzzles that are contained in the scenes. Those learning algebra, geometry, and calculus in school may find it amusing to see the way Gaal depicts these subjects as part of the landscape, and no matter how mathematically sophisticated you are, it may be hard not to smile at her wit and charm.

Math-Infused Sudoku
Puzzle Variants at All Levels of Difficulty
By David Nacin

This book contains sudoku puzzles with a twist. Each chapter of this book presents a variation on the standard sudoku puzzle, adding a constraint on how adjacent numbers are related. Suddenly, the numbers are not just interchangeable digits; their distinctive properties and relations to each other play a crucial role. This allows for elegant challenges where, in the most advanced versions, the solution is uniquely determined even without specifying initial entries.

The puzzles do not require any mathematical knowledge beyond an elementary school level. However, the rules of the puzzles lead you naturally to think logically and develop clever adaptive strategies. In this way the puzzles go beyond being a simple spin-off of a popular puzzle type. They also serve as great practice for logical thinking and abstract mathematical problem solving.

AMS a Day Calendar
By Evelyn Lamb

With this tear-off calendar you can start off each morning with a mathematical tidbit. One day it could be a piece of history, stories of mathematicians from ancient times to the present representing a diversity of genders, civilizations, and cultures; on another it could be a funny poem or “math joke”; and on a third you might learn an interesting slice of mathematics and something new about the person who discovered it.

The entry on World Braille Day will introduce you to Bernard Morin, a sight-impaired mathematician who was one of the first to demonstrate explicit sphere eversions. On Swiss Cheese Day, you learn that Alice Roth, a Swiss high school teacher, gave the first example of a compact space on which not every continuous function can be approximated by rational functions.

If hands-on activity appeals, you can learn to trisect an angle by paper folding, and build a cube out of three slanted pyramids.

Taken as a whole, this calendar opens views into the multiple facets of mathematics, not forgetting that while abstract, mathematics is also a very human endeavor.

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