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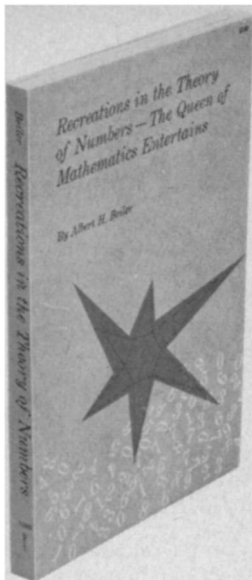


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by Albert H. Beiler \$2.00

One side of a right triangle is 48. Name 10 pairs of whole numbers that may represent the other two sides.

What is the smallest whole number with 100 divisors?

Find the smallest whole number consisting of 3's and 7's such that both the number and the sum of its digits are divisible by 3 and 7.

By the time you have worked your way through the book to the solutions for these and dozens of other problems incorporated into the text, you will not only have spent many happy hours, but you will have covered a lot of math theory, too, picking up important backgrounds in algebra, geometry, arithmetic and their abstract extensions; learning derivations and histories of many equations; developing the understanding of numerical relationships that is needed to find the answers.

An exciting approach to number theory!

You will be entertainingly introduced to the theory behind divisors; perfect numbers; Mersenne's numbers; the congruences invented by the ingenious Karl Friedrich Gauss; amicable and sociable numbers; the

"magic" of the digit 9; Farey Series; the as-yet unproved (and unrefuted) Last Theorem of Fermat; and many other basic topics of the theory of numbers.

Actually, though this theoretical material is interesting in itself, you can skip as much of it as you wish and still have fun. Concentrate, instead, on the problems, 100 of which are in a separate chapter. Many of them are solved, often with completely original solutions. Bibliographies offer serious readers and students a valuable guide to further study in specific topics of number theory.

Only high-school mathematics is needed!

Aside from a good grasp of high school math and the fundamentals of number theory that are presented in this book, all you need for hours of fun is a clear mind, patience, and practice. If the author has anything to say in the matter, you will certainly keep at it, for he has a deep appreciation of the enjoyment that math recreations can provide and his book is an exciting new discovery for everyone who agrees.

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The unique challenge of this kind of mathematical recreation stems from the fact that it comes out of an engrossing area of math—the theory of numbers. A relatively new field, number theory has occupied some of the greatest math geniuses of modern times, but only with this never-before-published book has its rich potential for complex, easily-comprehended puzzle-problems been explored. Here, often for the first time, are such challenges as:

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