

$$\sum_{n=1}^N [\alpha^{-k} F_n] = \begin{cases} F_{N-k+2} - \left[ \frac{N-k+3}{2} \right], & \text{if } N > k+1 \\ 0, & \text{if } N \leq k+1. \end{cases}$$

Also partially solved by P. Bruckman.



## BOOK REVIEW

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### Leonardo Pisano (Fibonacci)—The Book of Squares

(an annotated translation into modern English)—L.E. Sigler, Academic Press 1987.

This is the first complete translation into English of Fibonacci's masterpiece, *Liber quadratorum* ("The Book of Squares"), which was written in 1225. Until the nineteenth century when he acquired the nickname Fibonacci, the author, who was born in Pisa and christened Leonardo, was universally known as Leonardo Pisano. He is better-known for his *Liber abaci* in which the Fibonacci numbers first appear.

The volume under review consists of three main parts, namely; a short biographical sketch of Fibonacci, an English translation of *Liber quadratorum*, and a commentary on this translation ("The Book of Squares"). The Latin text followed by Sigler is that used by Boncompagni who found the MS in the Ambrosian Library in Milan when preparing the first printed edition of Fibonacci's writings in 1857-62.

Sigler's commentary is particularly useful as it provides in detail an explanation of Fibonacci's text in modern mathematical notation and terminology. Fibonacci had no algebraic symbolism to help him. Following Euclid, he represented numbers geometrically as line-segments. It is truly remarkable how far he could progress with this limited mathematical equipment. His achievements in this book justly confirm him as the greatest exponent of number theory, particularly in indeterminate analysis, in the Middle Ages.

A representative, and famous, problem posed and solved in the text is: Find a square number from which, when 5 is added or subtracted, there always arises a square number.

According to the translator, "a knowledge of secondary school mathematics, algebra and geometry ought to be adequate preparation for the reading and understanding of this book."

We are indebted to Sigler for making this English translation available. For many, it could open up a new world of delight.