

Diophantus of Alexandria Biography

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Biography

While most of the great Greek mathematicians throughout history concentrated on the study of geometry, Diophantus focused on algebra, particularly the solution of algebraic equations. Very little is known about Diophantus' early life; however, it is believed that he was born and lived in Alexandria, Egypt; married at the age of 33; and had a son who died at 42. Diophantus made use of algebraic equations in most of his problems, although in his time such problems were considered abstract arithmetic problems.

The most important of Diophantus' books, *The Arithmetica*, consisted of a series of thirteen books, of which only six have survived. In these books Diophantus introduced the concept of symbolic notation, using symbols to represent unknown quantities--a notable improvement over the usual practice of writing out the problem using the Greek alphabet. A major portion of the book addresses equations having positive rational solutions, since Diophantus believed irrational solutions were impossible. To this day problems with integer solutions are still commonly called Diophantine equations. Diophantus was also the first Greek to treat fractions as numbers. His use of algebraic symbolism strongly influenced later mathematicians, particularly the renowned Arab mathematician al-Khwarizmi, who helped spread Diophantus' algebra and use of symbolism to other civilizations.