

**WENTWORTH-SMITH
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ANALYTIC GEOMETRY**

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**LEWIS PARKER SICELOFF &
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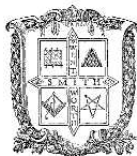
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ANALYTIC GEOMETRY

BY
LEWIS PARKER SICELOFF
GEORGE WENTWORTH
AND
DAVID EUGENE SMITH



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PREFACE

This book is written for the purpose of furnishing college classes with a thoroughly usable textbook in analytic geometry. It is not so elaborate in its details as to be unfitted for practical classroom use; neither has it been prepared for the purpose of exploiting any special theory of presentation; it aims solely to set forth the leading facts of the subject clearly, succinctly, and in the same practical manner that characterizes the other textbooks of the series.

It is recognized that the colleges of this country generally follow one of two plans with respect to analytic geometry. Either they offer a course extending through one semester or they expect students who take the subject to continue its study through a whole year. For this reason the authors have so arranged the work as to allow either of these plans to be adopted. In particular it will be noted that in each of the chapters on the conic sections questions relating to tangents to the conic are treated in the latter part of the chapter. This arrangement allows of those subjects being omitted for the shorter course if desired. Sections which may be omitted without breaking the sequence of the work, and the omission of which will allow the student to acquire a good working knowledge of the subject in a single half year are as follows: 46-53, 55-62, 121-134, 145-163, 178-197, 225-245, and part or all of the chapters on solid geometry. On the other hand, students who wish that thorough foundation in analytic geometry which should precede the study of the higher branches of mathematics are urged to complete the entire book, whether required to do so by the course of study or not.

This book is intended as a textbook for a course of a full year, and it is believed that many of the students who study the subject for only a half year will desire to read the full text. An abridged edition has been prepared, however, for students who study the subject for only one semester and who do not care to purchase the larger text.

It will be observed that the work includes two chapters on solid analytic geometry. These will be found quite sufficient for the ordinary reading of higher mathematics, although they do not pretend to cover the ground necessary for a thorough understanding of the geometry of three dimensions.

It will also be noticed that the chapter on higher plane curves includes the more important curves of this nature, considered from the point of view of interest and applications. A complete list is not only unnecessary but undesirable, and the selection given in Chapter XII will be found ample for our purposes.

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GREEK ALPHABET

The use of letters to represent numbers and geometric magnitudes is so extensive in mathematics that it is convenient to use the Greek alphabet for certain purposes. The Greek letters with their names are as follows:

A	α	alpha	N	ν	nu
B	β	beta	ξ	ξ	xi
Γ	γ	gamma	O	\omicron	omeron
Δ	δ	delta	Π	π	pi
E	ϵ	epsilon	ρ	ρ	rho
Z	ζ	zeta	Σ	σ, ς	sigma
H	η	eta	T	τ	tau
Θ	θ	theta	Υ	υ	upsilon
I	ι	iota	Φ	ϕ	phi
K	κ	kappa	X	χ	chi
Λ	λ	lambda	Ψ	ψ	psi
M	μ	mu	Ω	ω	omega