ELEMENTS OF PLANE GEOMETRY

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BY

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Sanders' Plane Geom.

E-P 2

PURPOSE AND DISTINCTIVE FEATURES

THIS work has been prepared for the use of classes in high schools, academies, and preparatory schools. Its distinctive features are:—

1. *The omission of parts of demonstrations.*

By this expedient the student is forced to rely more on his own reasoning powers, and is prevented from acquiring the detrimental habit of memorizing the text.

As it is necessary for the beginner in Geometry to learn the *form* of a geometrical demonstration, the demonstrations of the first few propositions are given in full. In the succeeding propositions only the most obvious steps are omitted, the omission in each case being indicated by an interrogation mark (?). In no case is the student expected to originate the *plan* of proof.

2. *The introduction, after each proposition, of exercises bearing directly upon the principle of the proposition.*

As soon as a proposition has been mastered, the student is required to apply its principle in the solution of a series of easy exercises. Hints or suggestions are given to aid the pupil in the solution of the more difficult exercises.

3. *All constructions, such as drawing parallels, erecting perpendiculars, etc., are given before they are required to be used in demonstrations.*

4. *Exercises in Modern Geometry.*

Exercises involving the principles of Modern Geometry are given under their proper propositions. As the omission of these exercises cannot affect the sequence of propositions, they may be disregarded at the discretion of the teacher.

5. *Propositions and converses.*

Whenever possible, the converse of a proposition is given with the proposition itself.

6. *Number of exercises.*

Besides the exercises directly following each proposition, miscellaneous exercises are given at the end of each book. It may be found that there are more exercises given than can be covered by a class in the time allotted to the subject of Plane Geometry; in which case the teacher will have to select from the lists given.

While the exercises have been drawn from many sources, the author has availed himself in particular of the recent entrance examination papers of the best American colleges and scientific schools.

The author wishes to express his obligations to his colleagues in the Cincinnati High Schools for their criticism and encouragement, and especially to Miss Celia Doerner of Hughes High School for valuable suggestions and for her painstaking reading of the proof.

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INDEX OF MATHEMATICAL TERMS

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