

**ROBBINS'S NEW
SOLID GEOMETRY**

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Robbins's new Solid geometry by Edward Rutledge Robbins

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EDWARD RUTLEDGE ROBBINS

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SOLID GEOMETRY**

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BY
EDWARD RUTLEDGE ROBBINS, A.B.
FORMERLY OF LAWRENCEVILLE SCHOOL



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ROBBINS'S NEW SOLID GEOMETRY.

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FOR THOSE WHOSE PRIVILEGE
IT MAY BE TO ACQUIRE A KNOWLEDGE OF
GEOMETRY
THIS VOLUME HAS BEEN WRITTEN
AND TO THE BOYS AND GIRLS WHO LEARN THE ANCIENT SCIENCE
FROM THESE PAGES, AND WHO ESTEEM THE POWER
OF CORRECT REASONING THE MORE
BECAUSE OF THE LOGIC OF
PURE GEOMETRY
THIS VOLUME IS DEDICATED

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PREFACE

THIS "New Solid Geometry" is not only the outgrowth of the author's long experience in teaching geometry, but has profited further by suggestions from teachers who have used Robbins's "Solid Geometry" and by the recommendations of the "National Committee of Fifteen." While many new and valuable features have been added in the reconstruction, yet all the characteristics that met with widespread favor in the old book have been retained.

Among the features of the book that make it sound and teachable may be mentioned the following:

1. The book has been written for the pupil. The objects sought in the study of Geometry are (1) to train the mind to accept only those statements as truth for which convincing reasons can be provided, and (2) to cultivate a foresight that will appreciate both the purpose in making a statement and the process of reasoning by which the ultimate truth is established. Thus, the study of this formal science should develop in the pupil the ability to pursue argument coherently, and to establish geometric truths in logical order. To meet the requirements of the various degrees of intellectual capacity and maturity in every class, the reason for every statement is not printed in full but is indicated by a reference. The pupil who knows the reason need not consult the paragraph cited; while the pupil who does not know it may learn it by the reference. It is obvious that the greater progress an individual makes in assimilating the subject and in entering into its spirit, the less need there will be for the printed reference.

2. Every effort has been made to stimulate the mental activity of the pupil. To compel a young student, however, to supply his own demonstrations frequently proves unprofitable as well as

arduous, and engenders in the learner a distaste for a study in which he might otherwise take delight. This text does not aim to produce accomplished geometricians at the completion of the first book, but to aid the learner in his progress throughout the volume, wherever experience has shown that he is likely to require assistance. It is designed, under good instruction, to develop a clear conception of the geometric idea, and to produce at the end of the course a rational individual and a friend of this particular science.

3. The theorems and their demonstrations—the real subject matter of Geometry—are introduced as early in the study as possible.

4. The simple fundamental truths are explained instead of being formally demonstrated.

5. The original exercises are distinguished by their abundance, their practical bearing upon the affairs of life, their careful gradation and classification, and their independence. Every exercise can be solved or demonstrated without the use of any other exercise. Only the truths in the numbered paragraphs are necessary in working originals.

6. The exercises are introduced as near as practicable to the theorems to which they apply.

7. Emphasis is given to the discussion of original constructions.

8. The historical notes give the pupil a knowledge of the development of the science of geometry and add interest to the study.

9. The attractive open page will appeal alike to pupils and to teachers.

10. The Solid Geometry formulas are grouped together at the end of the text, as a ready means of reference.

The author desires to extend his sincere thanks to those friends and fellow teachers who, by suggestion and encouragement, have inspired him in the preparation of the text, as well as to Clement B. Davis for his original and skillful treatment of the illustrations.

EDWARD R. ROBBINS.

CONTENTS

| | |
|--|------------|
| REFERENCES TO "NEW PLANE GEOMETRY" | PAGE ix |
|--|------------|

BOOK VI. LINES, PLANES, AND ANGLES IN SPACE

| | |
|---------------------------------------|-----|
| DEFINITIONS | 261 |
| PRELIMINARY THEOREMS | 262 |
| THEOREMS AND DEMONSTRATIONS | 264 |
| ORIGINAL EXERCISES | 287 |
| DIHEDRAL ANGLES | 290 |
| ORIGINAL EXERCISES | 303 |
| POLYHEDRAL ANGLES | 305 |
| ORIGINAL EXERCISES | 312 |

BOOK VII. POLYHEDRONS

| | |
|---|-----|
| DEFINITIONS | 313 |
| PRISMS | 314 |
| PRELIMINARY THEOREMS | 316 |
| THEOREMS AND DEMONSTRATIONS | 317 |
| ORIGINAL EXERCISES | 330 |
| PYRAMIDS | 332 |
| PRELIMINARY THEOREMS | 333 |
| THEOREMS AND DEMONSTRATIONS | 334 |
| REGULAR AND SIMILAR POLYHEDRONS | 353 |
| ORIGINAL EXERCISES | 360 |

BOOK VIII. CYLINDERS AND CONES

| | |
|--------------------------------|-----|
| DEFINITIONS | 367 |
| CYLINDERS | 367 |
| PRELIMINARY THEOREMS | 368 |

| | PAGE |
|---------------------------------------|------|
| THEOREMS AND DEMONSTRATIONS | 369 |
| ORIGINAL EXERCISES | 376 |
| CONES | 377 |
| PRELIMINARY THEOREMS | 379 |
| THEOREMS AND DEMONSTRATIONS | 381 |
| ORIGINAL EXERCISES | 388 |

BOOK IX. THE SPHERE

| | |
|---------------------------------------|-----|
| DEFINITIONS | 393 |
| PRELIMINARY THEOREMS | 395 |
| THEOREMS AND DEMONSTRATIONS | 397 |
| CONSTRUCTION PROBLEMS | 404 |
| SPHERICAL TRIANGLES | 408 |
| PRELIMINARY THEOREMS | 410 |
| THEOREMS AND DEMONSTRATIONS | 411 |
| ORIGINAL EXERCISES | 424 |
| SPHERICAL AREAS AND VOLUMES | 427 |
| PRELIMINARY THEOREMS | 429 |
| THEOREMS AND DEMONSTRATIONS | 431 |
| ORIGINAL EXERCISES | 443 |
| SUMMARY OF FORMULAS | 451 |
| INDEX OF DEFINITIONS | 453 |