



TV

MATHEMATICS 703: GEOMETRY

CONTENTS

| Ι. | SEGMENTS, LINES, AND ANGLES | 2 |
|------|-----------------------------|----|
| | Segments and Lines | 2 |
| | Angles | 9 |
| II. | TRIANGLES | 19 |
| | Construction | 19 |
| | Measurement | 22 |
| 111. | QUADRILATERALS | 34 |
| | Squares | 34 |
| | Rectangles | 39 |
| | Parallelograms | 42 |
| | Trapezoids | 46 |
| IV. | CIRCLES AND HEXAGONS | 52 |
| | Circles | 52 |
| | Hexagons | 55 |
| | | |

Author:

Editor-in-Chief: Editor: Consulting Editor: Revision Editor:

Milton R. Christen, M.A.

Richard W. Wheeler, M.A.Ed. Robin Hintze Kreutzberg, M.B.A Robert L. Zenor, M.A., M.S. Alan Christopherson, M.S.



Alpha Omega Publications®

804 N. 2nd Ave. E., Rock Rapids, IA 51246-1759 © MCMXCVI by Alpha Omega Publications, Inc. All rights reserved. LIFEPAC is a registered trademark of Alpha Omega Publications, Inc.

All trademarks and/or service marks referenced in this material are the property of their respective owners. Alpha Omega Publications, Inc. makes no claim of ownership to any trademarks and/or service marks other than their own and their affiliates', and makes no claim of affiliation to any companies whose trademarks may be listed in this material, other than their own.

GEOMETRY

This LIFEPAC[®] will give you an introduction to some of the concepts that are used in geometry. The word *geometry* means *earth measurement*. Two of the main concepts we study in geometry are the shape and size of objects.

OBJECTIVES

Read these objectives. The objectives tell you what you will be able to do when you have successfully completed this LIFEPAC.

When you have finished this LIFEPAC, you should be able to:

- 1. Name and measure lines and segments.
- 2. Name, measure, and construct angles.
- 3. Name, measure, and construct triangles.
- 4. Name, measure, and construct quadrilaterals.
- 5. Construct and measure circles.
- 6. Construct hexagons.

Survey the LIFEPAC. Ask yourself some questions about this study. Write your questions here.



| I. SEGMENTS, | OBJECTIVES |
|----------------------|--|
| LINES, AND ANGLES | When you have completed this section, you should be able to: |
| | Name and measure lines and segments. Name, measure, and construct angles. |

Geometry begins with the study of lines, segments, and angles. These concepts are needed for understanding the construction of other geometric figures.

One of the basic topics we study in geometry is the subject of lines. Most of you have some idea of what a line looks like. These drawings probably represent some of your ideas about lines.



All of these drawings may meet your idea of a line; but in geometry, only three of them would be considered to represent lines. They are (a), (e), and (f).

DEFINITION

Line: in geometry, a straight line that goes on forever in both directions.

Drawings (a), (e), and (f) pass the test for being lines. Drawings (b), (c), and (d) do not.

We name a line by putting two dots on it and labeling the dots with capital letters.



We can then refer to line *AB*, line *RT*, and line *MN*. To make talking about these lines even easier, we can write their names this way:

 \overrightarrow{AB} , \overrightarrow{RT} , and \overrightarrow{MN} . The symbol \overrightarrow{AB} is read line AB.



