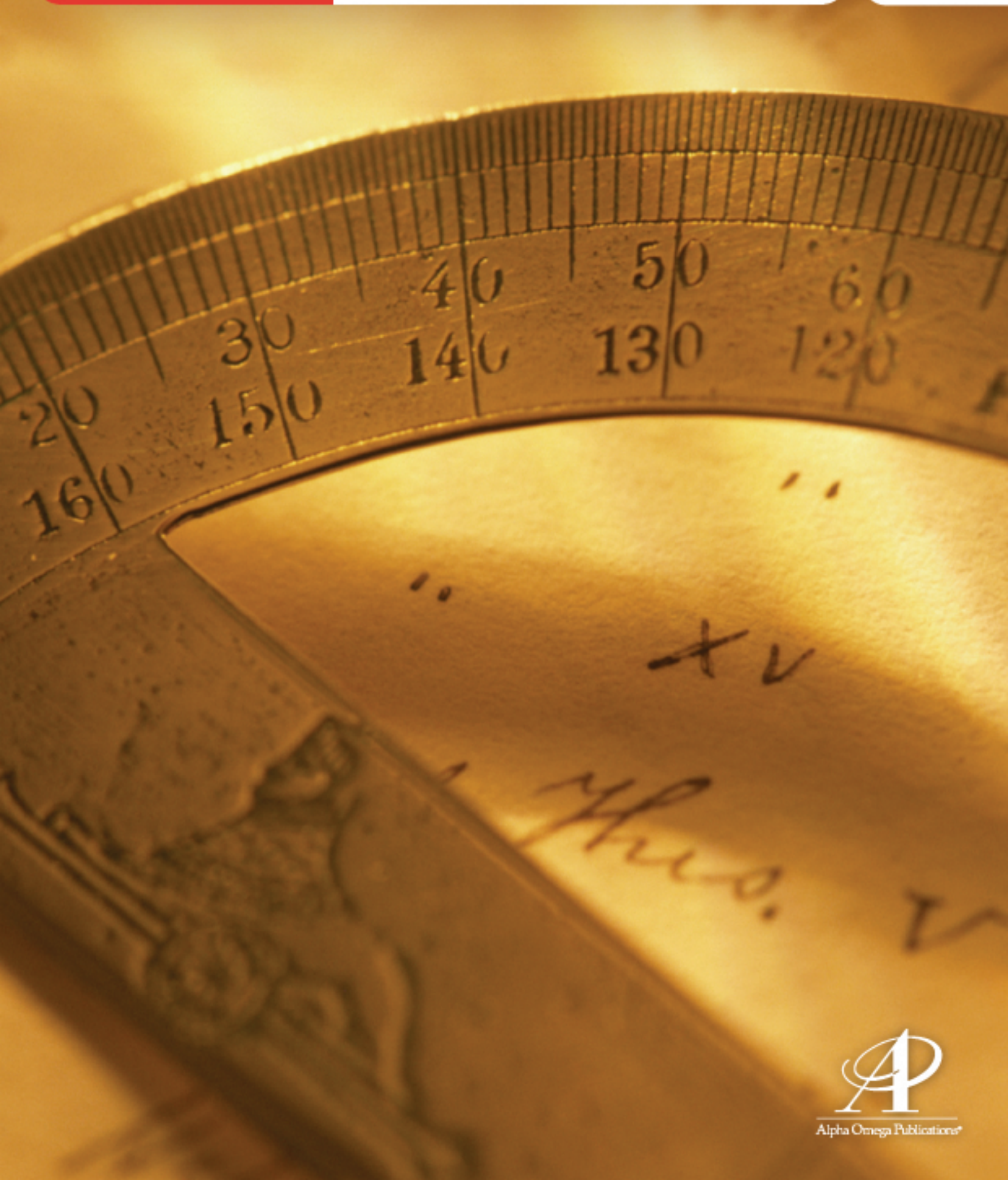
LIFEPAC® Math



Alpha Omega Publications®

MATHEMATICS 710
MATHEMATICS IN SPORTS

CONTENTS

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MATHEMATICS IN SPORTS

Throughout this LIFEPAC®, we will be using illustrations from the world of sports. As you review the mathematical concepts that you have learned in the Mathematics 700 series, you may learn about sports that are new to you. You might also learn something new about your favorite sport!

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. Write numbers in expanded form.
2. Arrange numbers in order of size.
3. Round numbers.
4. Add, subtract, multiply, and divide whole numbers.
5. Estimate and measure line segments and angles.
6. Calculate the perimeter and area of triangles and quadrilaterals.
7. Calculate the circumference and area of circles.
8. Write sentences about sets using the symbols $\in$ and $\notin$.
9. Perform the operations of union and intersection with sets.
10. Draw and identify Venn diagrams.
11. Write base ten numbers in base two.
12. Find the greatest common factor and the least common multiple.
13. Add, subtract, multiply, and divide common fractions.
14. Add, subtract, multiply, and divide decimal fractions.
15. Identify and solve problems with formulas.
16. Calculate ratios and proportions.

17. Make a frequency distribution for a set of data.

18. Find the measures of central tendency and the measures of dispersion for a set of data.

19. Draw a graph for a set of data.

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

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I. WHOLE NUMBERS

SECTION OBJECTIVES

1. Write numbers in expanded form.
2. Arrange numbers in order of size.
3. Round numbers.
4. Add, subtract, multiply, and divide whole numbers.

The first part of the Mathematics 700 series dealt with whole numbers. The review in this section will cover number concepts and addition, subtraction, multiplication, and division of whole numbers.

NUMBER CONCEPTS

Number concepts to be reviewed are place values, order of numbers, and rounding. Place value includes writing numbers in expanded form.

PLACE VALUES

At a certain basketball game, the attendance was 6,421.

Remember that this number means 6,000 + 400 + 20 + 1, or six thousands plus four hundreds plus two tens plus one unit. When a number is written this way, it is called the *expanded form* of the number.

Model: 14,321 = 10,000 + 4,000 + 300 + 20 + 1

Write these numbers in expanded form.

1.1 6,513 _____

1.2 167,419 _____

1.3 302 _____

1.4 8,081 _____

1.5 34,798 _____

When you are given a number in expanded form, of course, you can construct the number.

Model: Construct the number represented by 27 thousands + 3 hundreds + 1 ten + 3 ones.

Answer: 27,313

Construct the following numbers.

1.6 7 hundreds + 7 ones _____

1.7 82 thousands + 3 hundreds + 4 tens _____

1.8 600 thousands + 9 ones _____

Complete the following activities.

1.9 In his lifetime, Babe Ruth had 2,873 hits, of which 502 were doubles, 136 were triples, and 714 were home runs.
Write these numbers in expanded form.

a. 2,873 _____

b. 502 _____

c. 136 _____

d. 714 _____

1.10 In 1973 the World Series was attended by 359,489 people. Write this number in expanded form.

_____

1.11 The Veterans Memorial Coliseum in Phoenix, Arizona, holds 12,721 people. Write this number in expanded form.

_____

ORDER OF NUMBERS

Remember that we can use the symbol < to mean *less than*, as in 3 < 7. Also, the symbol > means *greater than*, as in 137 > 15. To indicate that 7 is between 2 and 10, we write 2 < 7 < 10 or 10 > 7 > 2.

Complete these activities.

1.12 If Richard scored 13 points and Willie scored 10 points in a basketball game, use the symbol > to show which score was higher.

_____

1.13 Express in symbols: Eighty-four is less than one hundred twelve.

_____

1.14 Is the following statement true or false? 37 < 39 < 17

_____