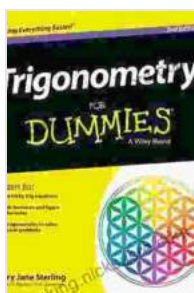# Trigonometry For Dummies

A Comprehensive Guide to Understanding Trig

Trigonometry is a branch of mathematics that deals with the relationships between the sides and angles of triangles. It is used in a wide variety of applications, including surveying, navigation, architecture, and engineering.

Trigonometry For Dummies by Mary Jane Sterling

★★★★☆ 4.6 out of 5

Language	: English
File size	: 8007 KB
Text-to-Speech	: Enabled
Screen Reader	: Supported
Enhanced typesetting	: Enabled
Word Wise	: Enabled
Print length	: 350 pages
Lending	: Enabled

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Trigonometry For Dummies is a comprehensive guide to understanding trigonometry. The book covers all the essential topics of trigonometry, including:

- Angles

- Triangles

- Circular functions

The book also includes numerous examples and practice problems to help you learn the material. Whether you are a student who is struggling with

trigonometry or an adult who wants to brush up on your math skills, Trigonometry For Dummies is the perfect book for you.

Angles

An angle is a measure of the amount of rotation around a point. Angles are measured in degrees, radians, or gradians.

One degree is equal to 1/360 of a full rotation. One radian is equal to the angle subtended by an arc of length 1 on a circle of radius 1. One gradian is equal to 1/400 of a full rotation.

Angles can be classified as acute, right, obtuse, or reflex. An acute angle is an angle that is less than 90 degrees. A right angle is an angle that is equal to 90 degrees. An obtuse angle is an angle that is greater than 90 degrees but less than 180 degrees. A reflex angle is an angle that is greater than 180 degrees but less than 360 degrees.

Triangles

A triangle is a polygon with three sides. Triangles are classified by the lengths of their sides and the measures of their angles.

There are three types of triangles based on the lengths of their sides:

- Scalene triangles have three sides of different lengths.

- Isosceles triangles have two sides of equal length.

- Equilateral triangles have all three sides of equal length.

There are also three types of triangles based on the measures of their angles:

- Acute triangles have three acute angles.

- Right triangles have one right angle.

- Obtuse triangles have one obtuse angle.

Circular Functions

Circular functions are functions that are defined using the unit circle. The unit circle is a circle with radius 1 that is centered at the origin of the coordinate plane.

The six circular functions are:

- Sine

- Cosine

- Tangent

- Secant

- Cosecant

- Cotangent

The sine of an angle is the ratio of the length of the opposite side to the length of the hypotenuse of a right triangle. The cosine of an angle is the ratio of the length of the adjacent side to the length of the hypotenuse of a right triangle. The tangent of an angle is the ratio of the length of the opposite side to the length of the adjacent side of a right triangle.

The secant of an angle is the reciprocal of the cosine of the angle. The cosecant of an angle is the reciprocal of the sine of the angle. The cotangent of an angle is the reciprocal of the tangent of the angle.

Examples and Practice Problems

Trigonometry For Dummies includes numerous examples and practice problems to help you learn the material. Here are a few examples:

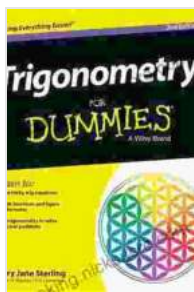**Example 1:** Find the sine of a 30-degree angle.

Solution: The sine of a 30-degree angle is 1/2.

Example 2: Find the cosine of a 45-degree angle.

Solution: The cosine of a 45-degree angle is 1/√2.

Example 3: Find the tangent of a 60-degree angle.

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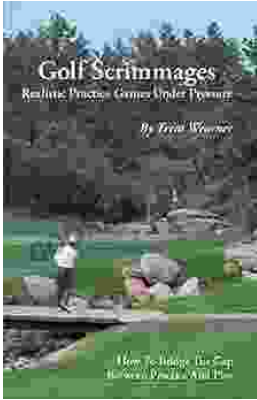★★★★☆ 4.6 out of 5

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