How can I use the ATAN2 function in Excel to calculate the arctangent of the specified x- and y-coordinates?

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The ATAN2 function in Excel is a mathematical function that calculates the arctangent of the specified x- and y-coordinates. This function takes two arguments, the x-coordinate and the y-coordinate, and returns the angle in radians between -π and π. This function is commonly used in trigonometry and can be utilized for a variety of applications, such as finding the direction of a vector or determining angles in geometric shapes. By inputting the x- and y-coordinates into the ATAN2 function, users can quickly and accurately calculate the arctangent without having to perform complicated mathematical equations. This feature makes it a useful tool for professionals and students alike in various fields, including engineering, physics, and mathematics.

This article describes the formula syntax and usage of the **ATAN2** function in Microsoft Excel.

Description

Returns the arctangent, or inverse tangent, of the specified x- and y-coordinates. The arctangent is the angle from the x-axis to a line containing the origin (0, 0) and a point with coordinates (x_num, y_num). The angle is given in radians between -pi and pi, excluding -pi.

Syntax

ATAN2(x_num, y_num)

The ATAN2 function syntax has the following arguments:

X_num Required. The x-coordinate of the point.

Y_num Required. The y-coordinate of the point.

Remarks

A positive result represents a counterclockwise angle from the x-axis; a negative result represents a clockwise angle.

ATAN2(a,b) equals ATAN(b/a), except that a can equal 0 in ATAN2.

If both x_num and y_num are 0, ATAN2 returns the #DIV/0! error value.

To express the arctangent in degrees, multiply the result by 180/PI( ) or use the DEGREES function.

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