## Why

We can discuss $z$ in terms of circular coordinates.[1]

## Definition

Let $z = (x, y) \in \mathbf{C}$. Since $z \in \mathbf{R}^2$, we can identify $z$ with the polar coordinates of $(x, y)$ in the plane.

The *argument* of $z \in \mathbf{C}$ is $\tan^{-1}(\operatorname{Im} z / \operatorname{Re} z)$. We denote the argument of $z$ by $\arg z$.[2]

[1] Future editions will expand.

[2] Future editions will include the geometric interpretations.


Complex Circular Coordinates
Complex Plane
Circular Coordinates
Complex Numbers
Real Arithmetic
Absolute Value
Real Multiplicative Inverses
Interval Length
Real Products
Intervals
Real Additive Inverses
Real Line
Real Plane
Rational Multiplicative Inverses
Rational Arithmetic
Real Sums
Real Order
Integral Line
Rational Products
Rational Sums
Real Numbers
Rational Order
Geometry
Rational Numbers
Lists
Integer Arithmetic
Set Numbers
Direct Products
Natural Additive Identity
Natural Multiplicative Identity
Integer Products
Finite Sets
Inverse Elements
Identity Elements
Arithmetic
Equivalent Sets
Element Functions
Natural Powers
Function Inverses
Integer Sums
Integer Order
Comparisons
Family Unions and Intersections
Operations
Natural Products
Function Composites
Function Images
Integer Numbers
Orders
Families
Functions
Natural Sums
Converse Relations
Equivalence Relations
Natural Order
Recursion Theorem
Relations
Ordered Pair Projections
Peano Axioms
Set Products
Natural Induction
Natural Numbers
Set Powers
Generalized Set Dualities
Set Symmetric Differences
Successor Sets
Unordered Triples
Set Dualities
Intersection of Empty Set
Partitions
Set Unions and Intersections
Set Complements
Ordered Pairs
Pair Unions
Set Intersections
Set Differences
Set Unions
Pair Intersections
Empty Set
Unordered Pairs
Set Specification
Set Equality
Set Inclusion
Deductions
Quantified Statements
Logical Statements
Statements
Identities
Sets
Names
Letters
Objects