



Geometric Representation of Complex Numbers

Today's Standard

HSN.CN.B5 - (+) Represent addition, subtraction, multiplication, and conjugation of complex numbers geometrically on the complex plane; use properties of this representation for computation. For example, $(-1 + \sqrt{3}i)^3 = 8$ because $(-1 + \sqrt{3}i)$ has modulus 2 and argument 120° .

Cues	Notes
Complex number	Complex numbers consist of a real part and an imaginary part.
Modulus	The modulus of a complex number is its distance from the origin on the complex plane.
Argument	The argument of a complex number is the angle it makes with the positive real axis.
Geometric representation	Geometric representation involves plotting complex numbers on the complex plane.
Addition and subtraction	Addition and subtraction of complex numbers can be visualized as vector operations.
Multiplication and conjugation	Multiplication and conjugation can be understood through geometric transformations.

Summary

This standard involves representing complex number operations geometrically on the complex plane, including addition, subtraction, multiplication, and conjugation. Understanding these concepts is essential for advanced mathematical applications.