



Complex Numbers: Rectangular and Polar Forms

Today's Standard

HSN.CN.B4 - (+) Represent complex numbers on the complex plane in rectangular and polar form (including real and imaginary numbers), and explain why the rectangular and polar forms of a given complex number represent the same number.

Cues	Notes
Complex number	A complex number is a number that can be expressed in the form $a + bi$, where a and b are real numbers, and i is the imaginary unit. Rectangular form represents a complex number as a point (a, b) on the complex plane.
Rectangular form	
Polar form	
Imaginary unit 'i'	Polar form represents a complex number using a magnitude (r) and an angle (θ) from the positive real axis.
Equivalence	The imaginary unit 'i' has the property that $i^2 = -1$. Rectangular and polar forms are different representations of the same complex number.

Summary

Complex numbers can be represented in both rectangular and polar forms, which are equivalent. Understanding these representations is crucial for advanced mathematical and engineering applications.