Understanding Complex Numbers

Today's Standard

HSN.CN.A1 - Know there is a complex number i such that $i^2 = -1$, and every complex number has the form a + bi with a and b real.

Real-World Applications for this Standard

Electrical engineering: analyzing AC circuits; Quantum physics: representing wave functions; Signal processing: Fourier transforms; Control theory: stability analysis; Computer graphics: fractals and transformations

Today I Learned

Today, we learned about complex numbers. Complex numbers have two parts: a real part and an imaginary part. The imaginary part uses the number i, which is special because i times i equals -1.

Common Stumbling Blocks

Some students think i is a variable, but it's a special number. Others think complex numbers aren't useful in real life, but they are used in many jobs like fixing electronics and studying physics.

Quiz Me

- What is the imaginary unit?
- How is a complex number written?
- Can you name a job that uses complex numbers?
- What does i times i equal?
- Is i a variable or a special number?

Help Me

Complex numbers are used in real life to solve problems in electronics, physics, and even making computer graphics. They help us understand and work with things that regular numbers can't.