Pythagorean Identity in Trigonometry

Today's Standard

HSF.TF.C8 - Prove the Pythagorean identity $\sin^2() + \cos^2() = 1$ and use it to find sin(), cos(), or tan() given sin(), cos(), or tan() and the quadrant of the angle.

Cues	Notes
Pythagorean identity $\sin^2() + \cos^2() = 1$ Unit circle Quadrants Trigonometric functions	The Pythagorean identity $\sin^2() + \cos^2() = 1$ is a fundamental relationship in trigonometry. This identity is derived from the Pythagorean theorem applied to the unit circle. It holds true for all angles , regardless of the quadrant. Understanding the signs of sine and cosine in different quadrants is crucial. This identity helps in finding unknown trigonometric values when one value is known.

Summary

The Pythagorean identity $\sin^2() + \cos^2() = 1$ is a key concept in trigonometry, universally true for all angles and crucial for solving trigonometric equations.