Symmetry and Periodicity in Trigonometric Functions

Today's Standard

HSF.TF.A4 - (+) Use the unit circle to explain symmetry (odd and even) and periodicity of trigonometric functions.

Cues	Notes
Unit Circle	The unit circle helps explain the properties of trigonometric functions.
Symmetry	Symmetry in trigonometric functions can be odd (origin symmetry) or even (y-axis symmetry).
Odd and Even Functions	Sine is an odd function, cosine is an even function.
Periodicity	Periodicity refers to the repeating nature of trigonometric functions. Sine and cosine have a period of 2π, tangent has a period of π.
Real-World Applications	Trigonometric functions model real-world phenomena like sound waves, tides, and signal processing.

Summary

Understanding the unit circle is key to explaining the symmetry and periodicity of trigonometric functions. This knowledge is essential for solving complex problems and modeling real-world phenomena.