Special Triangles and Unit Circle

Today's Standard

HSF.TF.A3 - (+) Use special triangles to determine geometrically the values of sine, cosine, tangent for π/3, π/4 and π/6, and use the unit circle to express the values of sine, cosine, and tangent for x, π + x, and 2π - x in terms of their values for x, where x is any real number.

Real-World Applications for this Standard

Calculating heights of buildings using trigonometric functions; Analyzing sound waves and their properties; Designing and programming animations in computer graphics; Navigating using GPS and understanding bearings; Modeling periodic phenomena such as tides or seasonal temperatures

Today I Learned

Today, I learned about special triangles and the unit circle in math. These help us find the values of sine, cosine, and tangent for different angles. This knowledge is important for solving real-world problems and understanding more advanced math topics.

Common Stumbling Blocks

Some students think that the values for angles like π + x or 2π - x are different from those for x, but they are actually the same because of the periodic nature of trigonometric functions. Others might think that the values for π/3, π/4, and π/6 are random, but they come from special triangles.

Quiz Me

- What is a special triangle?
- What is the unit circle?
- What is sine?
- What is cosine?
- What is tangent?

Help Me

In real life, we use trigonometric functions to do things like measure heights of buildings, analyze sound waves, and even navigate using GPS. Understanding special triangles and the unit circle helps us solve these

kinds of problems.