HPISD Curriculum: Pre Calculus Pre-AP

Title	Estimated Duration	6 Weeks					
Unit 1: Trigonometric Functions	12 days	**1**	2	3	4	5	6

Unit Overview

Students are introduced to trigonometric functions.

Generalizations/Enduring Understandings

The student will understand that:	• There is more than one unit of measurement for angle size. • Given some information about sides and angles of a right triangle, trigonometric functions are useful in determining missing information. • One angle can be named an infinite number of ways. • Trigonometric functions are useful in real life situations.

Concepts	Guiding/Essential Questions
• Functions	• Why can angles be represented different ways? • How do trigonometric functions help us find missing information? • How can trigonometric functions be used to model real life situations?

Learning Targets

- Students will determine which trigonometric function will be most effective to solve quantitative and conceptual problems.

Formative Assessments	Summative Assessments

TEKS:	Processes and Skills: What students should be able to DO	Facts: What students should KNOW
Determine the values of the trigonometric functions at the special angles and relate them in mathematical and real-world problems. **P.2.P** Determine the relationship between the unit circle and the definition of a periodic function to evaluate trigonometric functions in mathematical and real-world problems. **P.4.A** Describe the relationship between degree and radian measure on the unit circle. **P.4.B** Represent angles in radians or degrees based on the concept of rotation and find the measure of reference angles and angles in standard position. **P.4.C** Represent angles in radians or degrees based on the concept of rotation in mathematical and real-world problems, including linear and angular velocity. **P.4.D**	• Convert between degree measure and radian measure. • Find the standard position of an angle, coterminal angles, and reference angles. • Evaluate trigonometric expressions. • Demonstrate an understanding of the relationship between the six trigonometric functions. • Determine which trigonometric function to use dependent upon information given and information needed. • Use trigonometric concepts to find latitude, arc length, angle measure, rotational speed, and side measures of triangles.	• The unit circle has radius of one. • Special angles in the unit circle • Reference angles • Coterminal angles • Rotational speed • Latitude

Topics

Trigonometric Functions

Language of Instruction

arc length
area of a sector
coterminal angles
evaluate a trigonometric expression
latitude
radian measure
reference angle
rotational speed
trigonometric functions
unit circle

State Assessment Connections	National Assessment Connections

Resources