Unit 14: Inverse Trig Functions

Content Area: **Mathematics**
Course(s): **PreCalc Trig A**
Time Period: **Semester 2**
Length: **3 weeks**
Status: **Published**

Standards

MA.K-12.6	Attend to precision.
MA.F-TF.B.6	Understand that restricting a trigonometric function to a domain on which it is always increasing or always decreasing allows its inverse to be constructed.
MA.F-TF.B.7	Use inverse functions to solve trigonometric equations that arise in modeling contexts; evaluate the solutions using technology, and interpret them in terms of the context.

Enduring Understandings

Students will learn the restrictions and be able to graph inverse trig functions.

Grapple with the idea of the inverse being a function that 'undoes' another function.

Essential Questions

Why do we restrict the domain on trig functions before we use their inverses?

Why do we restrict the domains to two of the quadrants?

How can we write an inverse trig function expression to make it more familiar?

How do we graph inverse trig functions?

Knowledge and Skills

- Recall the properties of inverse functions
- Define the domain and Range of inverse functions
- Evaluate inverse trig expressions
- Use TI-83 to solve inverse trig expressions.
- Apply formulas from previous units to simplify inverse trig expresssions
- Solve inverse trig equations
- Graph inverse trig equations

Transfer Goals

Recognize and solve practical or theoretical problems involving mathematics, including those for which the solution approach is not obvious, by using mathematical reasoning and strategic thinking.

Resources

1. Pre-Calculus with Limits - Aufmann
2. Trigonometry 6th edition - Lial
3. Classkick
4. Khan Academy
5. PurpleMath
6. KutaSoftware
7. CK-12
8. Quizlet
9. Albert I/O
10. Desmos
11. Problem Attic