# **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