

# Integrated Alg2 PreCalc Unit 09: Trigonometry

Content Area: **Math**  
Course(s): **Integrated Algebra II & PreCalculus**  
Time Period: **Semester 1**  
Length: **2.5 cycles**  
Status: **Published**

## Unit Introduction

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## Standards

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MA.F-IF.A.1	Understand that a function from one set (called the domain) to another set (called the range) assigns to each element of the domain exactly one element of the range. If $f$ is a function and $x$ is an element of its domain, then $f(x)$ denotes the output of $f$ corresponding to the input $x$ . The graph of $f$ is the graph of the equation $y = f(x)$ .
MA.F-IF.A.2	Use function notation, evaluate functions for inputs in their domains, and interpret statements that use function notation in terms of a context.
MA.F-IF.B.4	For a function that models a relationship between two quantities, interpret key features of graphs and tables in terms of the quantities, and sketch graphs showing key features given a verbal description of the relationship.
MA.F-IF.B.5	Relate the domain of a function to its graph and, where applicable, to the quantitative relationship it describes.
MA.F-IF.C.7e	Graph exponential and logarithmic functions, showing intercepts and end behavior, and trigonometric functions, showing period, midline, and amplitude.

## Essential Questions

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- How can you model periodic behavior?
- If you the value of the  $\sin x$ , how can you find the  $\cos x$ ,  $\tan x$ ,  $\csc x$ ,  $\sec x$ ,  $\cot x$ ?

## Content

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- Angles and the Unit Circle
- Exploring Periodic Data
- Radian Measure
- The Cosine Function
- The Sine Function
- The Tangent Function
- Translating Sine and Cosine Functions

## Skills

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- Apply the unit circle
- Convert degrees to radians (vice versa)
- Determine if a graph is periodic
- Finding amplitude and midline
- Finding cosine and sine of angles
- Finding sine and cosine of a radian
- Identifying coterminal angles
- Identifying cycles, periods and periodic functions
- Measure and sketching angles in standard position
- Translate graphs of trigonometric equations