



Alignment Document
State of Hawaii and Aventa Learning Trigonometry

Trigonometry
2005-2007 Benchmark Blueprint

Strand	Standard	Topic	Benchmark	Unit Name	Course Topic Description
Numbers and Operations	T.1 Understand numbers, ways of representing numbers, relationships among numbers, and number systems	Numbers and Number Systems	MA.T.1.1 Express complex numbers in standard and polar form, and convert from one to another		
Numbers and Operations	T.2 Understand the meaning of operations and how they relate to each other	Operations	MA.T.2.1 Add, subtract, multiply, divide, and find powers of complex numbers in polar form		
Numbers and Operations	T.3 Use computational tools and strategies fluently and, when appropriate, use estimation	Vectors	MA.T.3.1 Use vector operations, the law of sines, and the law of cosines to solve problems	Trigonometric Functions Trigonometric and Parametric Equations	The Trigonometric Functions and Law of Sines and Cosines Vectors and Parametric Equations
Measurement	T.4 Understand attributes, units, and systems of units in measurement; and develop and use techniques, tools, and formulas for measuring	Measurement Formulas	MA.T.4.1 Calculate linear and angular velocity	Trigonometric Functions	Graphs of the Trigonometric Functions

<p>Geometry and Spatial Sense</p>	<p>T.5 Analyze properties of objects and relationships among the properties</p>	<p>Geometric Shapes and Their Properties and Relationships</p>	<p>MA.T.5.1 Find the sine, cosine, tangent, cotangent, secant, and cosecant of an angle in standard position</p> <p>MA.T.5.2 Use the relationship among the six trigonometric functions to translate among them (i.e., know that given one of the functions the value of the other five can be found)</p> <p>MA.T.5.3 Recognize the trigonometric functions of benchmark angles (e.g., 0, $\pi/2$, π, $3\pi/2$)</p> <p>MA.T.5.4 Translate between radians and degrees</p> <p>MA.T.5.5 Find the value of any trigonometric function and inverse trigonometric function, and solve trigonometric equations</p> <p>MA.T.5.6 Use the fundamental trigonometric identities, including the sum and difference formulas, double-angle formulas, and half-angle formulas to solve problems</p> <p>MA.T.5.7 Verify trigonometric identities</p> <p>MA.T.5.8 Solve trigonometric equations and inverse trigonometric equations that include all solutions or solutions with restricted domains</p>	<p>Trigonometric Functions</p> <p>Trigonometric Functions</p> <p>Trigonometric Functions</p> <p>Trigonometric Functions</p> <p>Trigonometric Functions</p> <p>Trigonometric and Parametric Equation</p> <p>Trigonometric and Parametric Equations</p> <p>Trigonometric Functions</p>	<p>Trigonometric Functions and Right Triangles</p> <p>Trigonometric Functions and Right Triangles</p> <p>Graphs of the Trigonometric Functions</p> <p>Graphs of the Trigonometric Functions</p> <p>The Trigonometric Functions and Inverse Trigonometric Functions</p> <p>Trigonometric Identities and Equations</p> <p>Trigonometric Identities and Equations</p> <p>The Trigonometric Functions and Inverse Trigonometric Functions</p>
<p>Geometry and Spatial Sense</p>	<p>T.6 Use transformations and symmetry to analyze mathematical situations</p>		<p>There are no benchmarks for this standard for this Grade/Course.</p>		



Geometry and Spatial Sense	T.7 Use visualization and spatial reasoning to solve problems both within and outside of mathematics		There are no benchmarks for this standard for this Grade/Course.		
Geometry and Spatial Sense	T.8 Select and use different representational systems, including coordinate geometry		There are no benchmarks for this standard for this Grade/Course.		
Patterns, Functions, and Algebra	T.9 Understand various types of patterns and functional relationships	Function	<p>MA.T.9.1 Use the trigonometric functions in the form $y = A\sin(Bx+C) + D$ to determine various properties of the function (e.g., domain, range, period, phase shift, amplitude)</p> <p>MA.T.9.2 Identify real-world phenomena that can be represented by a trigonometric function in the form $y = A\sin(Bx + C) + D$</p> <p>MA.T.9.3 Explain the relationship between trigonometric functions and their inverse</p>	Trigonometric Functions Trigonometric Functions Trigonometric Functions	Graphs of the Trigonometric Functions Graphs of the Trigonometric Functions The Trigonometric Functions and Inverse Trigonometric Functions
Patterns, Functions, and Algebra	T.10 Use symbolic forms to represent, model, and analyze mathematical situations		There are no benchmarks for this standard for this Grade/Course.		
Data Analysis, Statistics, and Probability	T.11 Pose questions and collect, organize, and represent data to answer those questions		There are no benchmarks for this standard for this Grade/Course.		
Data Analysis, Statistics, and Probability	T.12 Interpret data using methods of exploratory data analysis		There are no benchmarks for this standard for this Grade/Course.		



Data Analysis, Statistics, and Probability	T.13 Develop and evaluate inferences, predictions, and arguments that are based on data		There are no benchmarks for this standard for this Grade/Course.		
Data Analysis, Statistics, and Probability	T.14 Understand and apply basic notions of chance and probability		There are no benchmarks for this standard for this Grade/Course.		