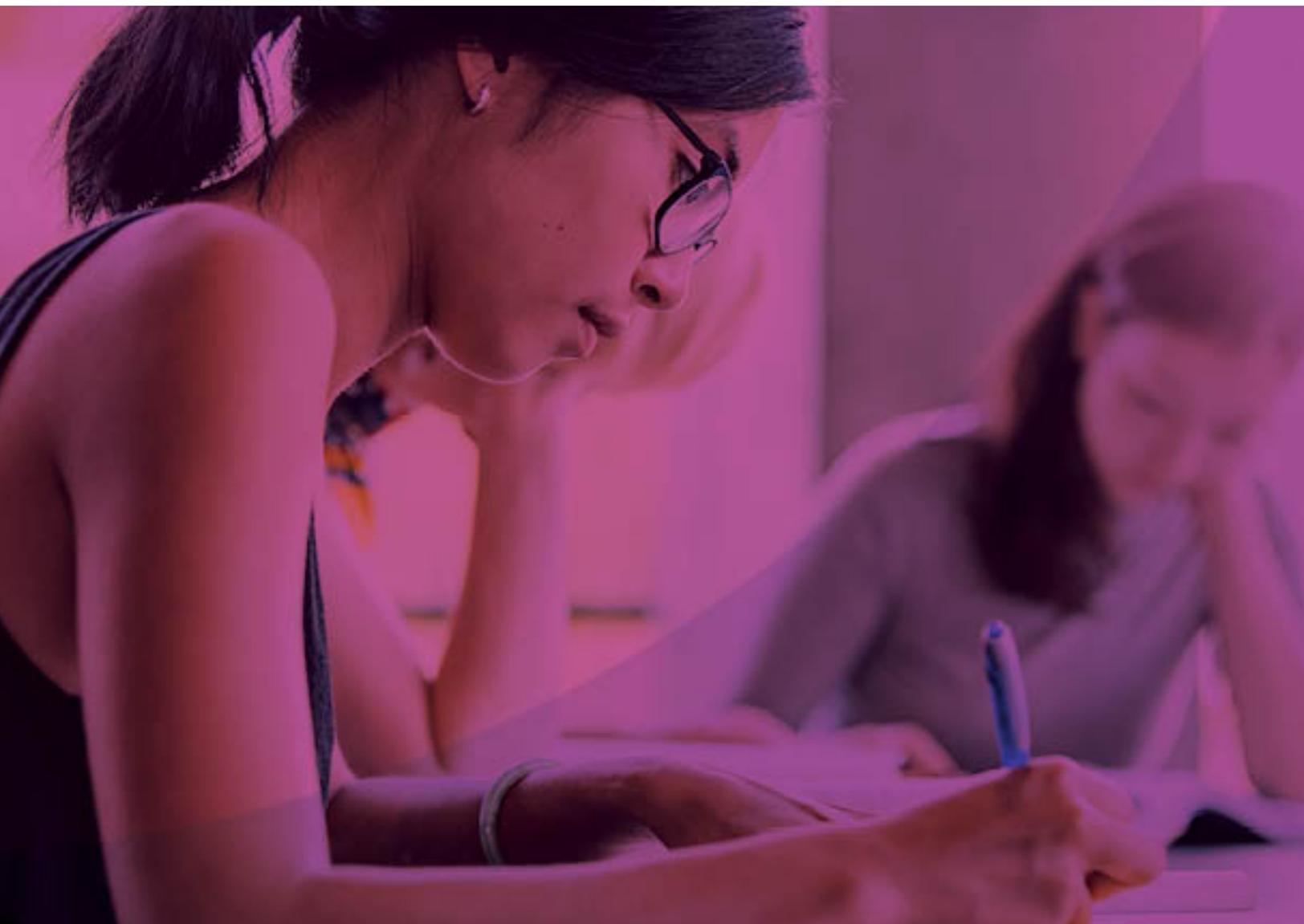




Trigonometry with Corequisite Support: A Targeted Approach



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Source	Author(s) (Text or Video)	Title(s)	Link (where applicable)
OpenStax	Jay Abramson, Arizona State University	Precalculus	OpenStax
Mathispower4u	James Sousa		Mathispower4u Videos
OpenStax	Lynn Marecek, Santa Ana College	Intermediate Algebra	OpenStax

Alta Trigonometry with Corequisite Support was developed to meet the scope and sequence of a typical one-semester trigonometry course, coupled with material that can be used for targeted, discrete assignments to help prepare some students for the material that constitutes their ultimate objectives in Trigonometry. To develop the course, Knewton used three main sources of content: Openstax, videos created by a Math Professor we have partnered with, and a team of Subject Matter Experts (SMEs). The SMEs come from diverse backgrounds and are all accomplished academics in the field of trigonometry.

Alta Trigonometry with Corequisite Support has two instructional sequences for every learning objective, giving students multiple opportunities to learn new concepts. Between our OpenStax, video, and Knewton SMEs, we were able to solicit ideas from math instructors and students at all levels of higher education. Alta Trigonometry covers the typical breadth of trigonometry topics, and also provides the necessary depth to ensure the course is manageable and engaging for instructors and students alike.

Trigonometry | Table of Contents

Chapter 1: Angles and Right Triangle Trigonometry

1.1 Vocabulary of Angles and Triangles

- Types of Angles
 - Identify right, acute, obtuse, and straight angles
 - Understand supplementary and complementary angles
- Angles, Triangles, and the Pythagorean Theorem
 - Find the measures of angles of a triangle using properties
 - Use properties of similar triangles to solve for a missing side
 - Use the Pythagorean theorem

1.2 Angles as Rotations and Arc Length

- Angles as Rotations and Radian Measures
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-

2.3 The Other Trigonometric Functions

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Corequisite Support for Trigonometry

Chapter 1: Foundations

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 - Use algebraic symbols and variables
 - Simplify expressions with grouping symbols and exponents using order of operations
- Simplifying and Rewriting Algebraic Expressions
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 - Identify and combine like terms
 - Translate an English phrase and word problems into an algebraic expression

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- Algebraic Expressions with Integers
 - Simplify expressions with integers
 - Evaluate variable expressions with integers
 - Translate an English phrase and word problems involving integers into an algebraic expression

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 - Multiply and divide fractions
 - Add and subtract fractions
 - Algebraic Expressions with Fractions
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 - Locate fractions and decimals on the number line
- Using the Properties of Real Numbers
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 - Solve problems involving percent change
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 - Solve a linear inequality that requires only one step
 - Solve a linear inequality that requires multiple steps to solve
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2.4 Solve Compound Inequalities

- Solving Compound Inequalities
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 - Solve a compound inequality involving unions
 - Solve applications with compound inequalities

2.5 Solve Absolute Value Equations and Inequalities

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 - Graph linear equations by plotting points
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 - Graph a line using intercepts

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3.4 Graph Linear Inequalities in Two Variables

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4.3 Graphing Systems of Linear Inequalities

- Solving Systems of Linear Inequalities
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- Determine if an ordered pair is a solution of a system of linear inequalities
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 - Rewrite expressions with positive exponents using the definition of negative exponents
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 - Multiply a polynomial by a polynomial
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 - Factor a trinomial in a quadratic form using substitution

5.6 Factor Special Products

- Factoring Special Products
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- Factor polynomials by combining the difference of squares and perfect square trinomial patterns
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- Problem Solving with Quadratic Equations
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- Graph a quadratic function by plotting points and determine the direction a parabola opens
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- Determine the intercepts of a parabola given a function
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 - Find the inverse of a function given a set of ordered pairs or a graph
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9.2 Distance and Midpoint Formulas and Circles

- The Distance and Midpoint Formulas
 - Use the distance formula to find the distance between two points
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 - The Equation of Circles
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