Unit 03: Law of Sines and Cosines

Content Area: **Mathematics**
Course(s): **Generic Course**
Time Period: **Semester 1**
Length: **3 weeks**
Status: **Published**

Standards

MA.G-SRT.D.10	Prove the Laws of Sines and Cosines and use them to solve problems.
MA.G-SRT.D.11	Understand and apply the Law of Sines and the Law of Cosines to find unknown measurements in right and non-right triangles (e.g., surveying problems, resultant forces).
9-12.HS-ETS1-1.1.1	Analyze complex real-world problems by specifying criteria and constraints for successful solutions.

Enduring Understandings

Students will understand that the Laws of Sines and Cosines could be applied to any type of triangle, not just a right triangle.

Students will be able to determine which law to use based on the given lengths and angles.

Students will be able to determine if one, two or no triangle(s) are formed when faced with an ambiguous case.

Essential Questions

What is an oblique triangle?

How can we solve for the missing pieces of an oblique triangle?

How can we determine when to use the Law of Sines vs. the Law of Cosines?

How can we determine if the given information creates one, two or no triangle(s)?

Knowledge and Skills

- Solve for oblique triangles using the Law of Sines or the Law of Cosines.
- Determine if given information creates one, two or no triangle(s).

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.

It is helpful to have a variety of approaches to a set of problems in order to apply the one that fits the situation the best.

Resources

Precalculus: Graphical, Numerical, Algebraic 10th Edition

Desmos/Amplify

Deltamath

Problem-Attic

Geogebra