

Chapter 8: Right Triangle Trigonometry

Content Area: **Math**
Course(s): **Geometry CP, Geometry A, Geometry H**
Time Period: **Marking Period 3**
Length: **13/17(H) Days**
Status: **Published**

Unit Introduction

Standards

CCSS.Math.Content.HSG-SRT.B.4	Prove theorems about triangles.
CCSS.Math.Content.HSG-SRT.C.7	Explain and use the relationship between the sine and cosine of complementary angles.
CCSS.Math.Content.HSG-SRT.C.8	Use trigonometric ratios and the Pythagorean Theorem to solve right triangles in applied problems.
CCSS.Math.Content.HSG-SRT.D.10	Prove the Laws of Sines and Cosines and use them to solve problems.
CCSS.Math.Content.HSG-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).

Essential Questions

- How do trigonometric ratios relate to similar right triangles?
- How do you find a side length or angle measure in a right triangle?

Content

- 8.1 - The Pythagorean Theorem and its Converse
- 8.2 - Special Right Triangles
- 8.3 - Trigonometry
- 8.4 - Angles of Elevation and Depression
- 8.5 - Law of Sines (H)
- 8.6 - Law of Cosines (H)

Skills

- Apply geometric concepts in modeling situations.
- Apply the Law of Cosines to solve problems
- Apply the Law of Sines to solve problems
- Classify triangles by side lengths

- Define trigonometric ratios and solve problems involving right triangles.
- Solve problems involving proportions in a right triangle (geometric mean).
- Solve problems using properties of 30-60-90 and 45- 45-90 triangles.
- Solve problems using sine, cosine and tangent ratios in right triangles.
- Solve problems using the Pythagorean Theorem and its converse.
- Use algebra to solve relevant geometric problems
- Use angles of elevation and depression to solve problems
- Use relevant vocabulary, symbols and notation.