



PRECALCULUS UNIT PLANNER



Unit title	Unit 3 – Trigonometry of General Triangles	Unit duration	7 days
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Essential Questions (OR GUIDING QUESTIONS?)

- How can I calculate the area of any triangle given only two sides and a non-included angle?
- How can I apply trigonometric relationships to non-right triangles?
- What is the least amount of information that is sufficient to find all six parts of a triangle?

Assessments

Common Formative Assessment – Law of Cosine & Sines Quiz
Common Summative Assessment – Unit 3 Test: Trig of General Triangles

Content Standards

Apply trigonometry to general triangles
MGSE9-12.G.SRT.9 Derive the formula $A = (1/2) ab \sin(C)$ for the area of a triangle by drawing an auxiliary line from a vertex perpendicular to the opposite side.
MGSE9-12.G.SRT.10 Prove the Laws of Sines and Cosines and use them to solve problems.
MGSE9-12.G.SRT.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).

Learning Activities and Experiences

Topic	Resource	Content Covered	Standards Addressed
Law of Sines/Cosines	8-2 Law of Sines and Law of Cosines Pearson enVision Algebra 2 pg. 424 - 432	<ul style="list-style-type: none"> • Derive the Law of Sines and Law of Cosines • Use the Law of Cosines and Sines to find unknown angles and sides of a non-right triangles • Understand the Ambiguous Case (Regarding Law of Sines) 	MGSE9-12.G.SRT.10 MGSE9-12.G.SRT.11
	Additional Resources: <ul style="list-style-type: none"> • DOE Framework Tasks - Proving Law of Cosines; Proving Law of Sines 		
Area of a Triangle	Area of General (Oblique) Triangles	<ul style="list-style-type: none"> • Derive the area formula of general triangles • Apply the area formula to solve problems 	MGSE9-12.G.SRT.9
	Additional Resources: <ul style="list-style-type: none"> • DOE Framework Tasks - Finding Area Task; Combining Lots - Culminating Task 		

Personalized Learning and Differentiation

Teachers differentiate by providing examples (work samples or task-specific clarifications of assessment criteria); structuring support (advance organizers, flexible grouping, peer relationships); establishing flexible deadlines, and adjusting the pace.

- SWD/504- Accommodations provided
- ELL- Five Principle ELL Curriculum Framework and Vocabulary Supports
- Intervention Support- Re-teaching Activities in Small Groups with Progress Monitoring
- Extensions- Enrichment Tasks and Projects

Resources

DOE Framework Tasks
Pearson enVision Textbook and Pearson Realize Online Resources