



Marietta City Schools
2023–2024 District Unit Planner

AP Precalculus

Unit title	Unit 4- Functions involving Parameters, Vectors, and Matrices	Unit duration (hours)	6-8 Hours
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Mastering Content and Skills through INQUIRY (Establishing the purpose of the Unit): *What will students learn?*

GA DoE Standards

Standards

4.8: Vectors:

- 4.8.A: Identify Characteristics of a vector.
- 4.8.B: Determine Sums and Products Involving vectors.
- 4.8.C: Determine a unit vector for a given vector.
- 4.8.D: Determine angle measures between vectors and magnitudes of vectors involved in vector addition.

Concepts /Skills to support mastery of standards:

- 2.A Identify information from graphical, numerical, analytical, and verbal representations to answer a question or construct a model, with and without technology.
- 3.A Describe the characteristics of a function with varying levels of precision, depending on the function representation and available mathematical tools.
- 3.B Apply numerical results in a given mathematical or applied context.
- 3.C Support conclusions or choices with a logical rationale or appropriate data.

Vocabulary


Magnitude, Scalar, Direction, Vector, Standard form, Component form, Tip to Tail Method, Parallelogram Method, Dot product, Orthogonal vectors, Unit vector, Linear combination, Law of sines, Law of cosines.

Notation $v = \langle a, b \rangle, ||v||$ **Essential Questions**

- How are vectors and scalars similar and different?
- How can I use vector operations to model, solve, and interpret real-world problems?
- How can I represent addition, subtraction, and scalar multiplication of vectors geometrically?
- How do geometric interpretations of addition, subtraction, and scalar multiplication of vectors help me perform computations efficiently?
- What are some different ways to add two vectors, and how are these representations related?

Assessment Tasks*List of common formative and summative assessments.***Formative Assessment(s):** Quick Checks, TODD**Summative Assessment(s):** Quest (4-8)**Learning Experiences**

Add additional rows below as needed.

Objective or Content	Learning Experiences	Personalized Learning and Differentiation
 Learning Experience- Vectors.docx	In this learning experience a carrier pigeon delivers mail directly between two locations. Students will use blocks and directions north, south, east, and	

	west, from a coordinate grid map and relate it to vectors.	
Content Resources		
Math Medic AP Classroom		