

HS Advanced Mathematics Standards and Benchmarks Confirmed

Standard 1: Use a variety of strategies in the problem-solving process

Benchmarks:

- 1.1 Use a variety of strategies to understand new mathematical content and to develop efficient solution methods or problem extensions

Standard 3: Use basic and advanced procedures while performing the processes of computation

Benchmarks:

- 3.1 Understand and use basic applications of and operations on matrices

Standard 5: Understand and apply basic and advanced properties of the concepts of geometry

Benchmarks:

- 5.1 Know how to perform linear transformations of vectors in two dimensions and represent these with matrices

Standard 6: Understand and apply basic and advanced concepts of statistics and data analysis

Benchmarks:

- 6.1 Apply knowledge of probability distributions and basic statistical calculations

Standard 7: Understand and apply basic and advanced concepts of probability

Benchmarks:

- 7.1 Understand the concept of a continuous probability distribution

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Standard 8: Understand and apply basic and advanced properties of functions and algebra

Benchmarks:

- 8.1 Use expressions, equations and matrices to represent situations that involve variable quantities and translate among these representations
- 8.2 Understand the concept of the derivative of a function and differentiates functions
- 8.3 Understand the concept of the integral of a function and integrates functions
- 8.4 Use applications of differential and integral calculus

Standard 9: Understand the general nature and use of mathematics

Benchmarks:

- 9.1 Understand the purpose and applications of graphs
- 9.2 Question and explore the axiomatic foundations of mathematics
- 9.3 Explore mathematics at a philosophical level