



Matrix Multiplication Properties

Today's Standard

HSN.VM.C9 - (+) Understand that, unlike multiplication of numbers, matrix multiplication for square matrices is not a commutative operation, but still satisfies the associative and distributive properties.

Cues	Notes
Matrix multiplication	Matrix multiplication is not commutative: $AB \neq BA$.
Commutative property	Matrix multiplication is associative: $(AB)C = A(BC)$.
Associative property	Matrix multiplication is distributive: $A(B + C) = AB + AC$.
Distributive property	Understanding these properties is crucial for advanced applications.
Real-world applications	Examples include computer graphics, quantum computing, and economics models.

Summary

Matrix multiplication has unique properties: it is not commutative but is associative and distributive. These properties are essential for advanced mathematical applications.